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VERIFICATION OF EMPIRICAL METHOD FOR DETERMINING RIVERBANK STAB--ETC(U)
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UNCLASSIFIED WES-MP-S-78-5-19 NL

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(9) MISCELLANEOUS PAPER S-78-5

(6) VERIFICATION OF EMPIRICAL METHOD FOR DETERMINING RIVERBANK STABILITY, Report 19. REPORT 12-24-1974 THROUGH 1977 DATA,

by

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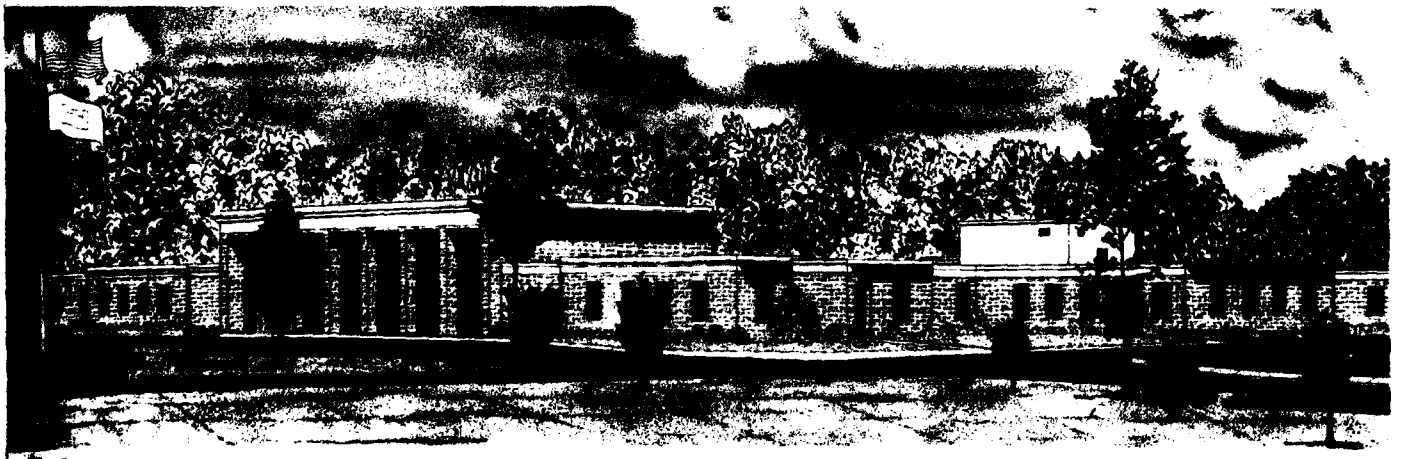
(14) WES-MP-S-78-5-19 (11) February 1981
Report 19 of a Series



Prepared for The President, Mississippi River Commission
Vicksburg, Mississippi 39180

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1-1	Instructions and Outline for Potamology Investigations	November 1947
1-2	Outline of Plans for the Potamology Investigations	December 1947
2-1	Preliminary Flume Tests of Mississippi River Revetment (1st Interim Report)	October 1947
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13-1	Bank Caving Investigations, Huntington Point Revetment, Mississippi River	June 1952
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21-2	Review of Past Experience with Contraction Works; Potamology Research Project 9	March 1967
21-3	Investigation of Existing Dike Systems; Potamology Research Project 9	May 1969
21-4	Use of Plastic Filter Cloth in Revetment Construction; Potamology Research Project 11	June 1970
21-5	Use of Plastic Filter Cloth in Revetment Construction, Potamology Research Project 11	August 1977

* Not of general informational value and hence not distributed.

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REPORT DOCUMENTATION PAGE		READ INSTRUCTIONS BEFORE COMPLETING FORM
1. REPORT NUMBER Miscellaneous Paper S-78-5	2. GOVT ACCESSION NO. AD-A097710	3. RECIPIENT'S CATALOG NUMBER
4. TITLE (and Subtitle) VERIFICATION OF EMPIRICAL METHOD FOR DETERMINING RIVERBANK STABILITY, REPORT 12-24 - 1974 THROUGH 1977 DATA		5. TYPE OF REPORT & PERIOD COVERED Report 19 of a series covering CY 1974 through 1977 6. PERFORMING ORG. REPORT NUMBER
7. AUTHOR(s) Albert R. Gann		8. CONTRACT OR GRANT NUMBER(s)
9. PERFORMING ORGANIZATION NAME AND ADDRESS U. S. Army Engineer Waterways Experiment Station Geotechnical Laboratory P. O. Box 631, Vicksburg, Miss. 39180		10. PROGRAM ELEMENT, PROJECT, TASK AREA & WORK UNIT NUMBERS
11. CONTROLLING OFFICE NAME AND ADDRESS The President, Mississippi River Commission Vicksburg, Miss. 39180		12. REPORT DATE February 1981 13. NUMBER OF PAGES 100
14. MONITORING AGENCY NAME & ADDRESS(if different from Controlling Office)		15. SECURITY CLASS. (of this report) Unclassified 15a. DECLASSIFICATION/DOWNGRADING SCHEDULE

16. DISTRIBUTION STATEMENT (of this Report)

Approved for public release; distribution unlimited.

17. DISTRIBUTION STATEMENT (of the abstract entered in Block 20, if different from Report)

18. SUPPLEMENTARY NOTES

19. KEY WORDS (Continue on reverse side if necessary and identify by block number)

Bank stability	Liquefaction (Soils)
Banks (Waterways)	Mississippi River
Borings	Revetments
Empirical method	Rivers

20. ABSTRACT (Continue on reverse side if necessary and identify by block number)

This report is the nineteenth of a series in which new data obtained from borings made for revetment construction are analyzed to determine the applicability of an empirical method for predicting riverbank stability with regard to flow (liquefaction) failure. Boring data obtained from 1974 through 1977 are analyzed, and stability predictions are made at 47 new areas. Failures that occurred from 1974 through 1977 at sites previously analyzed also are discussed.

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20. ABSTRACT (Continued).

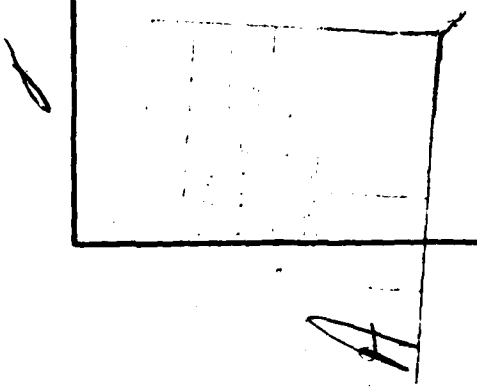
Based on analyses made in 1958 of previous performance data, the classification criteria for zone A and zone B sands were modified in 1959. The failures at sites previously studied, new site predictions, and current year performance are analyzed using the modified criteria.

From 1974 through 1977, 52 bank failures (29 flow-type and 23 shear-type) occurred along the lower Mississippi River at 37 revetment sites within 50 ft of boring locations for which stability predictions with regard to flow failure had been made. There were 23 flow failures near 23 boring locations predicted to be unstable, two flow failures near two boring locations predicted to be stable, four flow failures occurred near four boring locations for which no prediction was possible because the thickness of zone A sand had not been determined. Fourteen shear failures were reported near 13 boring locations predicted to be stable, seven shear failures were reported near seven boring locations predicted to be unstable, and two shear failures were reported near two boring locations for which no prediction was possible because boring depth was not sufficient and zone A sand had not been penetrated. In addition, 30 failures occurred that could not be classified as to type of failure and were judged to be the direct result of severe local scour. Also, 18 flow failures and 28 shear failures were reported in areas where no borings were located within 500 ft.

From 1954 (when riverbank stability predictions were initiated) through 1977, 2312 boring locations at 264 revetment sites on the Mississippi River have been studied. The majority of the borings were in the Vicksburg and Memphis District areas. Data on sites in the New Orleans District were included only in the first report of this series (Report 12-3). However, boring data beginning in 1968 from the New Orleans District are included herein.

Flow failures reported through 1977 have occurred within 500 ft of 27 boring locations in the Memphis District and 177 boring locations in the Vicksburg District; of these, 164 occurred near locations that had been predicted to be unstable according to the modified criteria, 26 occurred at boring locations predicted to be stable, and 14 occurred at boring locations for which no prediction had been made because the thickness of zone A sand had not been determined.

The modified criteria have proven reliable in predicting stability with regard to flow failure. Of the total of 204 flow failures recorded since 1954 within 500 ft of analyzed borings, 26 failures (19 violations of criteria or 9 percent) were near boring locations predicted to be stable. However, many locations predicted to be unstable have not experienced flow failure, and it is possible that either the density of the zone A sand may be such that flow failure will not occur or the severity of river attack has not been sufficient to initiate flow failure.



Preface

Estimates of bank stability from the standpoint of flow (liquefaction) failure at a number of sites along the Mississippi River were included in Summary Report of Soils Studies, Potamology Report 12-2, dated October 1952, and it was suggested that boring data acquired in future routine investigations be examined and used to estimate bank stability by a proposed empirical method. It was further suggested that these studies be conducted by a central office to permit refinement of criteria and to establish the validity of the proposed empirical method. In a letter dated 18 February 1953 to the Director, U. S. Army Engineer Waterways Experiment Station (WES), subject: "Proposed Potamology Study - Soils," the President, Mississippi River Commission (MRC), indorsed the proposed program for verification of the empirical method and indicated that the U. S. Army Engineer Lower Mississippi Valley Division (LMVD) would be instructed to forward the necessary data to WES.

This report is the nineteenth in the series of verification studies. The first 17 reports were Potamology Investigation Reports. This change in reports was directed by LMVD letter LMVED-P, dated 10 November 1976, subject: "Verification of Empirical Method for Determining Riverbank Stability Reports and Investigation of Liquefaction and Prevention of Flow Slides." This study was authorized by LMVD letter LMVDC-B/LMVED-G, dated 19 October 1978, subject: "Funding for WES Soil Mechanics and Geologic Investigation Program for LMVD, FY 79," and LMVD 1st Ind for WES letter dated 16 May 1978, subject: "Soil Mechanics and Geologic Investigation Program, FY 79 and FY 80."

The studies and analyses reported herein were made in the Geotechnical Laboratory, WES, by Mr. A. R. Gann, Engineering Group (EG), Soil Mechanics Division (SMD), under the direction of Messrs. C. L. McAnear, Chief, SMD, and G. B. Mitchell, Chief, EG. The studies were made under the general direction of Drs. D. C. Banks and P. F. Hadala, Acting Chief and Assistant Chief, GL. This report was prepared by Mr. Gann.

COL John L. Cannon, CE, and COL Nelson P.Conover, CE, were Directors of WES during the preparation and publication of this report. Mr. Fred R. Brown was Technical Director.

Contents

Conversion Factors, U. S. Customary to Metric (SI) Units of Measurement

U. S. customary units of measurement used in this report can be converted to metric (SI) units as follows:

Multiply	By	To obtain
feet	0.3048	metres
miles (U. S. statute)	1.609344	kilometres

VERIFICATION OF EMPIRICAL METHOD FOR DETERMINING RIVERBANK STABILITY, REPORT 12-24 - 1974 THROUGH 1977 DATA

Purpose and Scope of Investigation

1. The study reported herein is part of a continuing investigation to determine the validity of an empirical method for predicting the susceptibility of banks of the Lower Mississippi River and banks of alluvial rivers in the Lower Mississippi River basin to flow slides (liquefaction-type failures). In this report, soils data obtained from 1974 through 1977 from routine borings along the banks of the Mississippi River are evaluated. Predictions are made for the susceptibility to flow slides of the banks at the boring locations. This report also includes a summary of failures that occurred from 1974 through 1977 at sites previously studied for which stability predictions were made in earlier reports of this series.

2. Boring data from 47 sites along the Lower Mississippi River between 954 and 74 MAHP* are evaluated in this report. The sites are listed below according to the U. S. Army Engineer District where they are located:

Memphis District	
Cairo, Ill.	Blaker Towhead, Tenn.
Wolf Island, Ky.	Obion-Tamm, Tenn.
Hickman-Reelfoot, Ky.	Kate Aubrey, Tenn.
Island No. 8, Ky.	Harbert Point, Miss.
Island No. 9, Ky.	Fair Landing, Ark.
New Madrid Bar, Mo.	

Vicksburg District	
Dennis, Miss.	Grand Gulf, Miss.
Eutaw-Mounds, Miss.	Goldbottom, Miss.
Warfield Point, Miss.	Natchez Front, Miss.
Sarah Island, Miss.	Railroad Landing, Miss.
Mayersville, Miss.	Glasscock Cutoff, Miss.-La.

* Miles above Head of Passes (1962 mileage). A table of factors for converting U. S. customary units of measurement to metric (SI) units is presented on page 3.

Vicksburg District	
Baleshed-Stack Island, Miss.	Dead Man's Bend, Miss.
Goodrich, La.	Bougere Bend, La.
Togo Island, La.	

New Orleans District	
Point Breeze, La.	St. Gabriel, La.
Carr Point, La.	St. Elmo, La.
Smithland, La.	Bonnet Carré Point, La.
Hog Point, La.	Avondale, La.
Morganza, La.	Carrolton, La.
St. Maurice, La.	New Orleans, La.
Red Store Landing, La.	Algiers, La.
Pointe Coupee, La.	Third District, La.
Bayou Sara, La.	Belle Chasse, La.
Waterloo, La.	Oak Point, La.
Scotlandville, La.	

3. This study is a test of empirical criteria for stability of banks with regard to flow failure rather than a complete bank stability analysis; consequently, factors other than those on which the criteria are based have purposely been excluded. Also, it is emphasized that the data used in compiling this report were obtained by the Memphis, Vicksburg, and New Orleans Districts in routine investigations of soil conditions at proposed revetment sites or at sites where revetments are being extended; no special explorations, such as deep undisturbed sample borings or cone penetration soundings, were made for this study.

4. Prior to 1960, the Memphis and Vicksburg Districts used different methods to obtain samples from below the groundwater table. The Vicksburg District used a bailer sampler, and the Memphis District used a thin-walled, fixed-piston-type sampler. Samples obtained with the piston-type sampler are generally considered to be more representative and to provide a more accurate grain-size distribution than those obtained with the bailer sampler. Nevertheless, it was assumed in previous analyses that the bailer samplers obtained samples that were representative of the natural grain-size distribution, even though some loss of fines could be expected in this type of sampling. This may have affected the determination of the limits of various zones as described in reports concerned with data obtained prior to 1960. In

1960, the Vicksburg District began using the piston-type sampler, and stability predictions presented in this report for new sites in the Memphis, Vicksburg, and New Orleans Districts are based on data for samples obtained with the piston-type sampler.

Empirical Criteria for Determining Riverbank Stability

5. The following discussion, based on data accumulated as a part of the potamology investigations and related studies of caving banks, is concerned with the soil conditions involved in the criteria for determining riverbank stability.

Soil conditions associated with flow failures

6. Several basic soil conditions have been found to be associated with flow slides; they are described in Potamology Reports 9-1 and 12-2 and other reports and are summarized in Potamology Report 12-3, the first of this series of verification reports (see list of Potamology Reports inside front cover). A brief description of these soil conditions is repeated here for convenience.

a. Flow failures occur in ancient point bar deposits.

b. Point bar deposits usually contain three basic soil types: a somewhat cohesive top stratum called "overburden soils"; underlying fine sands called the "upper sand series"; and in turn, underlying coarse sands and gravels called the "lower sand series."

c. Flow failures have never been known to extend into the lower sand series.

d. The stability of a given slope is dependent upon the relative thicknesses of (1) the overburden and (2) a zone of fine sand (designated zone A) in the upper sand series.

7. For data analyzed in this report, the upper sand series has been subdivided into two zones, A and B, on the basis of variations in grain size. Penetration resistance, as determined by the rotary cone penetrometer, or natural density from undisturbed samples may also be used to delineate zone A sand (see Potamology Report 18-1). Where failures have occurred, the boundary between zones A and B has been

found to correspond approximately to the depth of failure (see Potamology Reports 12-2 and 12-5). Predictions of susceptibility to flow failure made through 1958 were based on gradation criteria developed in October 1952, as described in Report 12-2. However, a performance evaluation made during 1958 indicated that the gradation classification criteria for overburden soils, zone A sand, and zone B sand should be modified. This evaluation, described in detail in Potamology Report 12-8, showed that, based on the modified criteria, all flow failure locations studied would have been predicted to be unstable except three locations where the borings did not penetrate the full depth of zone A sand and which, therefore, did not meet the requirements for the verification study. The modified classification criteria for overburden soils, zone A sand, zone B sand, and lower sands are based on variations in grain size. These criteria have been adopted for making predictions at new revetment sites. A comparison of the original and modified criteria is presented in Table 1.

8. In zoning soil conditions in the riverbank, it should be noted that zone B sands may contain occasional thin strata of sands as fine as zone A sands, but zone B contains predominantly coarser and denser material than zone A. Conversely, the occurrence of strata of medium or coarse material not exceeding about 5 ft in thickness in a zone of fine sand greater than 20 ft in thickness is not considered sufficient reason to classify the zone as other than zone A. In determining the overburden thickness, the thickness of all strata overlying the zone A sand governing thickness (i.e., thickness greater than 20 ft) are included. Thus, the overburden zone may include not only cohesive top stratum material, but also relatively thin strata of sands (even zone A sands when separated from underlying zone A sands by more than 5 ft of other soils).

Thickness of zone A sand compared with thickness of overburden

9. It has been found that where flow failures have occurred, the zone A sands were at least 20 ft thick, and this is established as a minimum thickness for any location considered as potentially

unstable. The ratio of the overburden thickness to the zone A sand thickness, called the R value, has also been found significant. An R value of 0.85 or less and a zone A sand thickness of 20 ft or more indicate an unstable condition. An R value greater than 0.85 or a zone A sand thickness less than 20 ft indicates a stable condition with regard to flow failure. The critical thickness ratio (R = 0.85) is based on the application of the modified criteria developed from data for locations where flow failures have occurred.

Variability of soil conditions

10. Previous investigations have shown that the thickness of zone A sand may vary considerably in borings spaced as close as 250 ft from each other. Because of the wide spacing of borings at the sites studied, usually 1000 ft or more, it is reasonable to assume that appreciable changes in soil conditions may occur between borings. Therefore, predictions are made for individual boring locations rather than for an entire revetment reach.

Predictions at New Sites, Memphis and Vicksburg Districts

Method of analysis

11. The data furnished the U. S. Army Engineer Waterways Experiment Station (WES) from 1974 through 1977 by the Memphis and Vicksburg Districts for use in this study consisted of boring logs, results of mechanical analyses of soil samples, and hydrographic survey maps of sites showing boring locations. Table 2 is a summary of the site and map identification data.

12. The percentages of material passing the No. 40, 60, and 200 sieves were obtained directly from sieve analysis data sheets furnished by the two Districts. By use of the modified criteria (Table 1), each soil sample was classified as overburden, upper sand (zone A or B), or lower sand series material.

13. The various series and zones were then delineated as a soil profile for each site. Thicknesses of overburden and zone A sand were

determined for individual borings, and the corresponding R values were computed. In some cases, borings did not penetrate the full thickness of zone A sand. In these cases, a prediction of susceptibility to flow failure could be made only when a sufficient thickness of zone A sand was penetrated to indicate instability (i.e., when the R value obtained in the computation $R = \frac{\text{overburden thickness}}{\text{zone A thickness}}$ was 0.85 or less). No prediction could be made when the incompletely penetrated thickness of zone A sand was less than that required to produce an R value of 0.85 or less.

Predictions*

14. Table 3 summarizes soil conditions at sites in the Memphis and Vicksburg Districts for which data were supplied from 1974 through 1977 and evaluates individual boring locations with respect to susceptibility to flow failure. Zone A sand thicknesses are plotted versus R values in Plates 1-8 for all sites in both the Vicksburg and Memphis Districts. As can be seen in Table 3 and Plates 1-8, the majority of the boring locations at revetment sites No. 70, 236, and 341 in the Memphis District and No. 63, 185, 193, 344, and 347 in the Vicksburg District are classified as stable with respect to flow failure; the majority of the borings at sites No. 21, 81, 134, 176, 189, 213, 319, and 342 in the Memphis District and No. 79, 107, and 218 in the Vicksburg District are classified as susceptible to flow failure, while the majority of borings at sites 345 and 346 are classified as not predictable.

Predictions at New Sites, New Orleans District

Method of analysis

15. The 1974 through 1977 data furnished to WES by the New Orleans District (NOD) consisted of boring logs, mechanical analyses

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* These evaluations were previously furnished to the Memphis and Vicksburg Districts

of soil samples, and a set of small-scale hydrographic survey maps* showing the boring locations at 21 new revetment sites. Sounding ranges are plotted on the 1:20,000-scale hydrographic maps furnished by the NOD. Revetment borings were generally made on the top of the bank at one of these sounding ranges and are designated with the range number. The hydrographic range numbers correspond to the approximate mileage above Head of Passes. Table 4 presents the boring locations and the soil conditions at the 21 sites for which data were furnished from 1974 through 1977.

16. With the inclusion of the boring data from the NOD, a problem associated with the modified empirical criteria for predicting stability with regard to flow failure has become apparent. It is often the case that the borings made by the NOD for revetment work extend to or slightly below thalweg elevation but still do not completely penetrate or extend far enough into the underlying zone A sand to permit a prediction in accordance with the current criteria. A criterion limiting the depth considered in making predictions is used herein for borings made by the NOD.

17. It is considered logical to assume that the mass of soil that might be involved in a flow-type failure would be that laying between the ground surface and the elevation of the thalweg opposite the boring location. Thus the concept of a limiting depth D_L arises. For the purpose of making predictions of susceptibility to flow failure in the NOD, the limiting depth D_L is considered to be the difference between ground surface elevation of the boring and the 1962 thalweg elevation (1962 hydrographic survey) at the boring location, plus an additional 50 ft to allow for any deepening of the thalweg that may have occurred since 1962. The application of the limiting depth concept is described in Figure 1.

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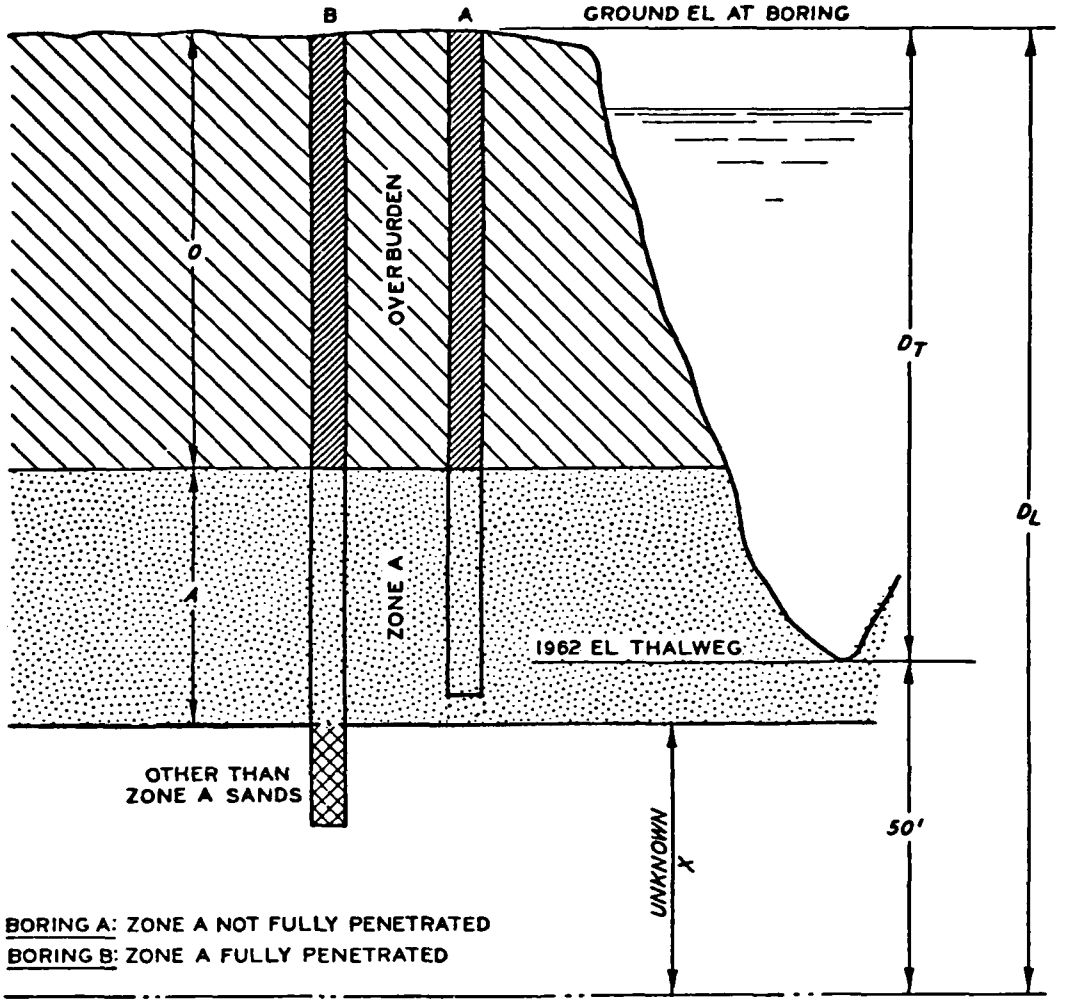
* U. S. Army Engineer District, New Orleans. 1965. "Mississippi River Hydrographic Survey 1961-63, Black Hawk, La., to Head of Passes, La.," New Orleans, La.; and U. S. Army Engineer District, Vicksburg. 1964. "Mississippi River Hydrographic Survey 1962-64, Mouth of White River, Ark., to Black Hawk, La.," Vicksburg, Miss.



THE LIMITING DEPTH, D_L (= D_T + 50 FT), REPRESENTS THE MAXIMUM COMBINED THICKNESS OF OVERBURDEN AND ZONE A SANDS (O + A) THAT CAN BE USED IN THE EVALUATION OF STABILITY AGAINST FLOW SLIDES. THUS, THE THICKNESS OF ZONE A SANDS IS LIMITED TO A MAXIMUM VALUE OF (D_L − O).

	O/A	ZONE A THICKNESS	PREDICTION
D_L = O + A	≤0.85	≥20 FT	UNSTABLE
	>0.85		STABLE
D_L > O + A	≤0.85	≥20 FT	UNSTABLE
	≤0.85	<20 FT AND FULLY PENETRATED	STABLE
	≤0.85	<20 FT AND NOT PENETRATED	NO PREDICTION OR STABLE*
	>0.85	FULLY PENETRATED	STABLE
		NOT PENETRATED	NO PREDICTION OR STABLE*

* STABLE IF VALUE OF *X* IS SUCH THAT IT IS NOT POSSIBLE FOR A TO BE ≥20 FT AND FOR O/A TO BE ≤0.85.

Figure 1. Prediction criteria using the limiting depth concept

Predictions

18. The use of the limiting depth concept primarily results in changing a no-prediction condition to a stable prediction condition where the zone A sand has not been completely penetrated, but the soil mass above the thalweg consists largely of overburden material. Most of the boring locations in the NOD that would otherwise be classified as unpredictable are predicted to be stable when the limiting depth concept is used. This is in keeping with the past history of relative stability of the riverbank in the NOD. Table 5 summarizes the predictions resulting from the limiting depth concept for the 1974 through 1977 revetment borings made in the NOD (see Table 4 for detailed data).

Failures at Sites Previously Analyzed

Method of analysis

19. The Memphis and Vicksburg Districts furnish to WES yearly reports of any bank or revetment failures at sites that have been analyzed and for which performance predictions have been made in reports of this verification series beginning in 1954.

20. In the evaluation of revetment performance, it has been found that flow failures and other types of bank failure occur more frequently during or after high river stages than after low stages. The estimated ranges of maximum river stage at the revetment sites previously studied on the Mississippi River in the Memphis and Vicksburg Districts for the period 1954 through 1967 and in the Memphis, Vicksburg, and New Orleans Districts for the years 1968 through 1977 are shown in the following tabulation. Also shown are the total number of revetted boring locations analyzed and the number of reported failures that have been classified either as flow failure or shear failures (including those more than 500 ft from boring locations).

21. Based on the 1974 through 1977 river inspection and performance surveys, data on 97 failures that could be classified as either shear or flow failures (52 within 500 ft of boring locations) at 77 revetment sites were reported.

Year	Maximum River Stage, ft* From	To	Cumulative Number of Revetted Boring Locations	Number of Failures Flow Failures	Shear Failures
1954	-10	-20	56	0	0
1955	+5	-10	158	9	3
1956	0	-14	270	10	3
1957	+2	-5	375	12	35
1958	0	-9	408	13	32
1959	-4	-14	447	5	11
1960	+3	-11	447	6	8
1961	+10	-2	532	10	11
1962	+7	-7	591	9	33
1963	+8	-9	648	6	12
1964	+4	-11	749	4	4
1965	+3	-10	783	11	12
1966	+7	-14	816	5**	5**
1967	+4	-14	885	7	19
1968	+3	-9	902	28	16
1969	+4	-6	939	25	17
1970	+5	-4	966	16	10
1971	+5	-7	1018	20	11
1972	+5	-10	1071	15	17
1973	+12	+4	1143	25	24
1974	+10	-6	1255	24	19
1975	+13	-1	1329	9	15
1976	+4	-16	1362	6	11
1977	+4	-16	1408	7	6

* Referenced to bank-full conditions (Lower Mississippi Valley River reach).

** Failures could not be classified at two sites and are not included in this total. See paragraphs 43 and 48 of Report 12-19.

22. Survey maps and cross sections of the failure areas were forwarded to WES and have been studied to determine whether the failures were flow slides or shear-type failures. The following criteria are used to identify flow failures:

a. The failure surface, in plan, tends to be bowl- or neck-shaped with a narrow throat at the outlet of the failure.

b. The failure surfaces usually encompass the top of bank.

c. The major portion of the failed material is not deposited at the toe of the failure area but is carried away by the river.

d. After-failure slopes are relatively flat.

The first three of the criteria above are considered to be the most important; where in subsequent descriptions of individual failures a flow failure is stated to have occurred, these criteria have been met unless otherwise stated. The last criterion, although significant, is difficult to verify because of the possibility of after-failure scour and cannot generally be used in establishing the occurrence of a flow failure. It should be noted that, in general, survey maps of failure areas are made from annual surveys conducted during the summer at low river stages probably several months after the failures occur. Consequently, it may reasonably be assumed that river currents may modify the contours of most of the failure areas by the time the surveys are made; for this reason it is difficult in some cases to establish whether failures are of the flow-type (liquefaction) or of the shear-type.

Predictions and observed performance

23. Flow-failure predictions and observed performance through 1977 for all sites for which predictions were made in the previous 18 reports and in this report are summarized in Table 6. The estimated maximum river stages with reference to bank-full conditions at each of the sites studied from 1954 through 1977 are also shown in Table 6. Failures reported in the years 1955 through 1973 were discussed in Reports 12-4, 12-6 through 12-14, and 12-17 through 12-23. Discussions of failures observed from 1974 through 1977 are presented below. Where shear failures occurred at locations predicted to be either stable or unstable with respect to flow slides, the criteria are considered to have been neither verified nor contradicted.

24. The original classification criteria were modified in 1959, as indicated in Table 1. Previously reported data were reevaluated and tabulated in Report 12-10 to show predictions based on the modified criteria. The summary tabulation was expanded in Report 12-11 to

indicate those locations for which no prediction could be made because the full thickness of zone A sand was not penetrated in the boring, and the thickness that was penetrated was insufficient for prediction purposes. Report 12-11 and later reports list only those failures that occurred within 500 ft of a boring location. Table 4 was revised in Report 12-19 to group all information on a particular site together under the heading of the site name. The site locations are listed in order of MAHP from upstream to downstream. The maximum river stage shown in the table is the maximum stage preceding the observed performance of the riverbank.

25. Failures observed from 1974 through 1977 that occurred within 500 ft of borings for which predictions have previously been made are presented in Tables 7 through 10 for each individual year. The key to the dimensions of the shear and flow failures (given in columns 14 to 17 of Tables 7, 8, 9, and 10) is shown in Figure 2. Those failures observed from 1974 through 1977 that could not be classified as either a flow or shear failure, or which occurred more than 500 ft from boring locations, are described in Appendix A for record purposes only.

Summary of New Site Predictions and 1974 Through 1977 Performance at Sites Previously Studied

New site predictions

26. Predictions with regard to flow failure were made using the modified criteria for 183 new boring locations at 27 sites in the Memphis and Vicksburg Districts. Based on the modified criteria, 70 locations are predicted to be unstable and 72 are predicted to be stable with regard to flow failure. No prediction was possible for 41 locations because thicknesses of zone A sand were not determined.

27. Predictions as to stability with regard to flow failure were made using an alternate method of applying the modified criteria for 82 new boring locations at 25 sites in the NOD. Based on the limiting depth concept, 19 locations are predicted to be susceptible

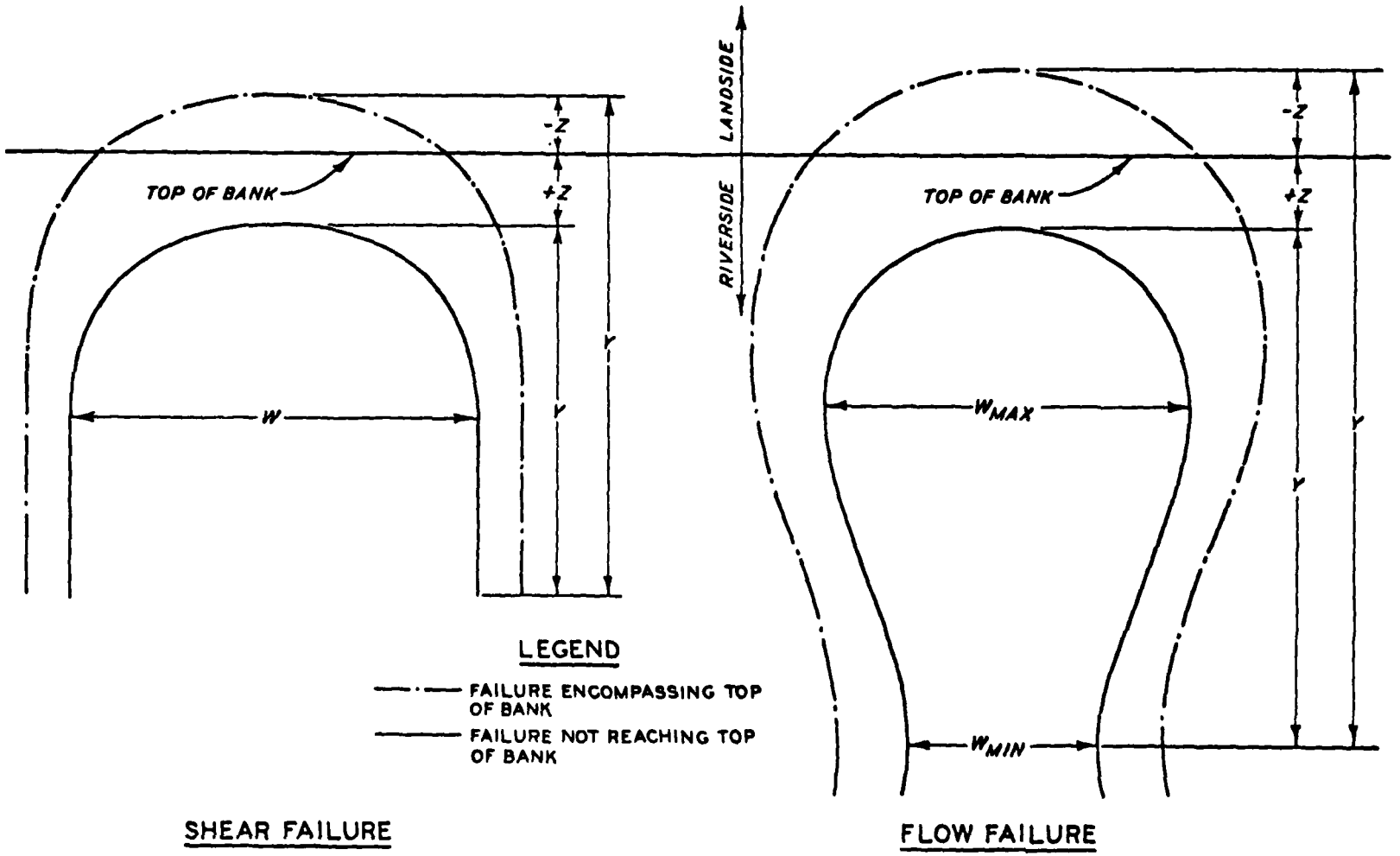


Figure 2. Failure dimensions reported in Tables 7 through 10

to flow failure and 55 are predicted to be stable. No prediction was possible for eight locations.

Performance from 1974 through 1977 at sites previously studied

28. During the period 1974 through 1977, 52 bank failures were reported along the Mississippi River near (within 500 ft of) 51 boring locations at 37 sites for which stability predictions had been made. Twenty-three flow failures occurred near 23 boring locations predicted to be unstable with regard to flow failure. Two flow failures occurred near two boring locations predicted to be stable with regard to flow failure. Seven shear failures occurred near seven boring locations predicted to be unstable with regard to flow failure; 13 shear failures occurred near 12 boring locations predicted to be stable. Seventeen flow failures and 28 shear failures were reported in areas where no borings were located within 500 ft. Four flow failures and two shear failures occurred near six boring locations for which no prediction had been made because of insufficient data on the depth of zone A sand. In addition, 25 revetment failures were thought to be the direct result of severe local scour.

Evaluation of Performance Predictions 1954 Through 1977

29. Since 1954, data have been studied from 818 borings (599 were at locations later revetted) made at 89 proposed revetment sites along the Mississippi River in the Memphis District and from 993 borings (of which 661 were at locations later revetted) made at 94 proposed revetment sites in the Vicksburg District. Starting in 1968, data from the New Orleans District were studied from 504 borings made at 128 proposed revetment sites along the Mississippi River. The susceptibility with regard to flow failure of all boring locations for which there were sufficient data has been evaluated using the modified criteria in the Memphis and Vicksburg Districts and an alternative method of applying the modified criteria in the NOD. Predicted performance, together with actual performance records, is given in

Table 6. The only failures considered in this table are those that occurred within 500 ft of boring locations for which predictions have been made. To compare the actual performance with predicted performance, a summary of the performance at those boring locations where revetments have been placed is given in the following tabulation:

Prediction with Respect to Flow Failure	Boring Locations	Performance		
	Number	Flow Failures	Shear Failures	No Failures
Memphis District				
Unstable	177	21	15	141
Stable	356	4	45	307
No prediction possible	66	2	8	56
Subtotal	599	27	68	504
Vicksburg District				
Unstable	277	143	31	103
Stable	294	22	83	189
No prediction possible	90	12	10	68
Subtotal	661	177	124	360
New Orleans District				
(No failures reported within 500 ft of boring locations for which predictions have been made.)				
Memphis and Vicksburg Districts				
Unstable	454	164	46	244
Stable	650	26	128	496
No prediction possible	156	14	18	124
Total	1260	204	192	864

30. Significant facts apparent from the data shown in the preceding tabulation are as follows:

a. In the Memphis District, 16 percent of the revetted boring locations have experienced failures of either the flow- or shear-type, while in the Vicksburg District, 46 percent of the revetted boring locations have experienced failures.

b. Eighty-seven percent of the flow failures have occurred in the Vicksburg District.

c. Approximately 42 percent of the revetted locations in the Vicksburg District are predicted to be potentially unstable, while in the Memphis District about 30 percent of the revetted locations are predicted to be unstable.

31. Table 11 summarizes soil conditions at the 19 locations where flow failures occurred in violation of the empirical criteria. It is considered significant that with only 19 exceptions, all flow failures have occurred either near locations predicted to be potentially unstable or where the full depth of zone A sand was not determined. However, since only 36 percent of the locations in the Vicksburg and Memphis Districts predicted to be susceptible to flow failures have actually experienced such failures over the 23-year period of study, it is apparent that the modified criteria define only a part (i.e., thicknesses of overburden and zone A sand) of the conditions indicative of the probability of flow failure. This empirical method does not include consideration of the effect of the density of the zone A sand or of geological and groundwater conditions in predicting susceptibility to flow failure. In addition, the empirical method ignores the effect of river attack. It is possible that many of the unstable locations have not yet experienced flow failures simply because they have not been subjected to the degree of river attack required to trigger flow failure.

Conclusions

32. Since flow failures have occurred at those locations that have been predicted to be unstable, the modified classification criteria are considered reliable in predicting susceptibility to flow failure. However, many locations predicted to be potentially unstable have not yet experienced flow failure. This may be because the unknown density of the zone A sand is such as to prevent flow failure, because the severity of river attack has not been sufficient to initiate a flow failure, or because of the influence of other possible factors that have not been taken into account that could prevent such failures.

Table 1

Comparison of Original and Modified Classification Criteria

Material	Original Criteria*	Modified Criteria**
Overburden soils	More than 10% passing No. 200 sieve	More than 20% passing No. 200 sieve
Upper sands	50% or more passing No. 40 sieve	50% or more passing No. 40 sieve
Zone A	50% or more passing No. 60 sieve	25% or more passing No. 60 sieve
Zone B	Less than 50% passing No. 60 sieve	Less than 25% passing No. 60 sieve
Lower sands	Less than 50% passing No. 40 sieve	Less than 50% passing No. 40 sieve

* These classification criteria were used prior to 1959.

** These criteria are presently used in the classification of individual soil samples. However, in establishing thicknesses of overburden and zone A materials, strata of other soils may be included in these zones, as described in the text.

Table 2

Summary of Map Identification Data, Memphis and Vicksburg Districts

Revetment Site Location	Boring No.	Miles Above Head of Passes*	General Title	Date	Sheet No.	File No.
			Memphis District (1974)			
Cairo, Ill.	1-U-74 thru 5-U-74	954.85 to 954.2	Miss. River Bank Protection, General Map, Cairo, Ill., Geological Investigations	Feb 1966	1 of 1	60/457 Photo No. 4A-73/832
Hickman-Reelfoot, Ky.	19-U-73 and 20-U-73	915.0 to 914.8	Miss. River Channel Imp., General Map, Hickman-Reelfoot, Ky., Geological Investigations	Mar 1968 Revised Mar 1969	1 of 1	60/320 Photo No. 18-73/821
Island 9, Ky.	1-U-R-74 thru 4-U-R-74	907.5 to 906.4	Miss. River Bank Protection, General Map, Island No. 9, Geological Investigations	July 1957 Revised July 1974	1 of 2	60/247
Harbert Point, Miss.	E-U-74 thru A-U-74	676.7 to 675.9	Miss. River Bank Protection, General Map, Harbert Point, Geological Investigation	Mar 1966	1 of 1	60/459 Photo No. 164-73/832
			Vicksburg District (1974)			
Sarah Island, Miss.	SIS-6-74U thru SIS-1-74U	506.4 to 505.2	Miss. River--Potamology Studies, Detailed Study Reaches, Sarah Island Revetment, Hydrographic Survey	May 1973	1 of 1	73-120
Myersville, Miss.	M-1-74 thru M-3-74	501.7 to 501.1	Miss. River--Potamology Studies, Detailed Study Reaches, Myersville, Miss., Revetment Hydrographic Survey	Sep 1973	1 of 1	M-3.1-73-154 73-123A
Baleshed-Stack Isl, La.	BS-2-74U thru BS-3-74	483.7 to 483.4	Miss. River Channel Improvement Work, Record Map, Baleshed-Stack Isl.	--	30 of 62	M-4-1
Togo Island, La.	T-1-74 thru T-7-74	415.8 to 414.2	Togo Island Revetment Boring Location, Hydrographic Survey	Feb 1974	1 of 1	M-3-74-6-S
Grand Gulf, Miss.	G-8-74 thru G-11-74	407.0 to 406.3	Grand Gulf Revetment Boring Location, Hydrographic Survey	Mar 1974	1 of 1	M-3-74-37

(Continued)

* 1962 mileage.

Table 2 (Continued)

Revetment Site Location	Boring No.	Miles Above Head of Passes	General Title	Date	Sheet No.	File No.
			Vicksburg District (1974) (Continued)			
Goldbottom, Miss.	GB-1-74 thru GB-7-74U	395.65 to 394.3	Miss. River--Potamology Studies, Detailed Study Reaches, Goldbottom, Miss., Revetment Hydrographic Survey	Sep 1973	1 and 2 of 2	M-3.1-73-149 73-259 M-3.1-73-150 73-274
Railroad Landing, Miss.	R-1-74U thru R-14-74U	347.2 to 343.95	Railroad Landing Revetment and Boring Location, Hydrographic Survey	Feb 1974	1 and 2 of 2	74-277 74-278
Glasscock Cutoff, Miss.-La.	G-1-74U thru G-20-74U	344.2 to 339.85	Miss. River--Potamology Studies, Detailed Study Reaches, Glasscock Cutoff, Miss.-La., Hydrographic Survey	Oct 1973	1 and 2 of 2	M-3.1-73-166 73-325 73-326
Dead Man's Bend, Miss.	D-1-74U thru D-27-74U	338.1 to 332.25	Miss. River--Potamology Studies, Detailed Study Reaches, Dead Man's Bend, Miss., Hydrographic Survey	Oct-Nov 1973	1 and 2 of 2	M-3.1-73-171 73-335 73-336
Bougere Bend, La.	1-74-U thru 4-74-U	327.5 to 326.65	Miss. River--Potamology Studies, Detailed Study Reaches, Bougere Bend, La., Revetment Hydrographic Survey	Oct-Nov 1973	1 of 1	M-3.1-73-171 73-337
			Memphis District (1975)			
Wolf Island, Ky.	B-U-75 A-U-73 19-U-73 thru 22-U-75	934.8 to 930.45	Miss. River Bank Protection, General Map, Wolf Island, Geological Investigation	June 1955 Revised June 1975	1 of 1	60/239
Blaker Towhead, Tenn.	B-U-75 and A-U-75	845.3 to 845.2	Miss. River and Tributaries, Blaker Towhead, Tenn., Revetment Boring Logs, Sta. 82-Sta. 100	--	--	--
Obion-Tamm, Tenn.	16-U-75 thru 9-U-75	822.75 to 821.6	Miss. River Channel Improvement, General Map, Obion Bar, Geological Investigation	May 1959 Revised Mar 1975	1 of 1	60/253
Kate Aubrey, Tenn.	1-U-75 thru 3-U-75	787.6 to 787.2	Miss. River Channel Improvement, General Map, Island 30, Geological Investigation	May 1959 Revised Feb 1975	1 of 1	60/254

(Continued)

Table 2 (Continued)

Revetment Site Location	Boring No.	Miles Above Head of Passes	General Title	Date	Sheet No.	File No.
			Memphis District (1975) (Continued)			
Fair Landing, Ark.	1-U-75 thru 9-U-75	635.0 to 634.2	Regulation Works, Miss. River, Soils Investigation Revetment, Fair Landing, Ark., Logs of Borings	--	2 and 3	--
			Vicksburg District (1975)			
Warfield Point, Miss.	WP-1-75U thru WP-4-75U	537.0 to 536.6	Miss. River Bank Protection Work, Warfield Point, Miss.	1968	1 and 2 of 2	--
Goodrich, La.	G-1-75U thru G-4-75U	464.3 to 463.3	Miss. River--Potamology Studies, Detailed Study Reaches, Goodrich Revetment, Hydrographic Survey	Oct 1973	1 of 1	M-3.1-73-159 73-179
Natchez Front, Miss.	NF-1-75 thru NF-4-75	363.7 to 363.6	Natchez Front, Miss., Before Construction Survey	1975	2 of 2	--
			Memphis District (1976)			
Island No. 8, Ky.	1-U-76 thru 3-U-76	913.2 to 912.8	Regulation Works, Miss. River, Soils Investigation Revetment, Island 8, Ky., Logs of Borings	--	Plates 2 and 3	--
			Vicksburg District (1976)			
Grand Gulf, Miss.	G-1-74U and G-2-76U thru G-7-76U	408.6 to 407.2	Miss. River--Potamology Studies, Detailed Study Reaches, Point Pleasant, Hydrographic Survey	21-26 Sep 1973	3 of 3	M-3.1-73-148 73-242
			Miss. River--Potamology Studies, Detailed Study Reaches, Grand Gulf, Hydrographic Survey	27-28 Sep 1973	1 of 3	M-3.1-73-149 73-257
			Memphis District (1977)			
New Madrid Bar, Mo.	1G and 2G 3U thru 6U 7G thru 12G	887.75 to 886.0	Regulation Works, Miss. River, Soils Investigation Revetment, New Madrid Bar, Mo., Logs of Borings	--	4 and 5	--

(Continued)

Table 2 (Concluded)

Revetment Site Location	Boring No.	Miles Above Head of Passes	General Title	Date	Sheet No.	File No.
			Vicksburg District (1977)			
Dennis, Miss.	D-5-77 thru D-1-77	613.8 to 613.15	Miss. River Channel Improvement Work, Dennis Record Map, Revetments	1977	1 of 62	M-4-1
			Dennis Revetment, Miss. River, Revetment Borings	Nov 1977	1 of 1	--
Eutaw-Mounds, Miss.	M-1-77U thru M-8-77U	559.35 to 558.10	Miss. River--Potamology Studies, Detail Study Reaches, Eutaw-Mounds Revetment, Miss., Choctaw Bar, Hydrographic Survey	Sep 1976	2 of 3	M-3.1-76-91 Revised 76-48
			Miss. River, East Bank in Miss., Eutaw-Mounds, Miss., Revetment Borings	May 1977	1 of 1	--

Table 3

Summary of Soil Conditions, New Revetment Sites, Memphis and Vicksburg Districts

Revetment Site Location	Site No.	Miles Above Head of Passes*	Date	Station or Range	Boring No.	Boring MAHP	Depth ft	Overburden Thickness ft	Zone A Thickness ft	R Values**	Predictions+
Memphis District, 1974 Borings											
Cairo, Ill.	341	954.85 to 954.2	Mar 74	353+00	1-U-74	954.85	66	66	0	--	S
				362+00	2-U-74	954.7	65	26	6	--	S
				371+50	3-U-74	954.5	101	35	28	1.25	S
				379+50	4-U-74	954.35	111	40	71+	0.56	U
				388+00	5-U-74	954.2	66	40	6	--	S
Hickman-Reelfoot, Ky.	236	915.0 to 914.8	July 73	347+00	19-U-73	915.0	51	0	11	--	S
				357+00	20-U-73	914.8	51	0	18	--	S
Island 9, Ky.	142	907.5 to 906.4	June 74	7+50	1-U-R-74	907.5	32	0	32+	--	U
				23+50	2-U-R-74	907.2	49	0	49+	--	U
				45+50	3-U-R-74	906.75	43	6	23	0.26	U
				63+50	4-U-R-74	906.4	53	39	11	--	S
Harbert Point, Miss.	21	676.7 to 675.9	May 74	56+75	E-U-74	676.7	41	22	16	--	S
				68+00	D-U-74	676.5	41	15	20	0.75	U
				80+00	C-U-74	676.3	44	8	34	0.24	U
				93+00	B-U-74	676.05	68	21	34	0.62	U
				100+50	A-U-74	675.9	77	25	20	1.25	S
Vicksburg District, 1974 Borings											
Sarah Island, Miss.	181	506.4 to 505.2	Oct 74	R-52-U	SIS-6-74U	506.4	101	10	19	--	S
				R-45-U	SIS-5-74U	506.2	101	13	16	--	S
				R-38-U	SIS-4-74U	506.0	101	63	38+	--	NP
				R-29-U	SIS-3-74U	505.8	101	63	38+	--	NP
				R-18-U	SIS-2-74U	505.5	241	18	70	0.26	U
				R-8-U	SIS-1-74U	505.2	101	6	95	0.07	U
Myersville, Miss.	217	501.7 to 501.1	Nov 74		M-1-74	501.7	101	101	0	--	S
					M-2-74U	501.4	101	14	20	0.70	U
					M-3-74	501.1	101	58	43+	--	NP
Baleshed-Stack Isl, La.	218	483.7 to 483.4	Sep 74	46+60	BS-2-74U	483.7	101	4	20	0.20	U
				61+40	BS-3-74	483.4	101	3	32	0.09	U
Togo Island, La.	343	415.8 to 414.2	Oct-Nov 74	R-44-U	T-1-74	415.8	101	0	18	--	S
				R-34-U	T-2-74	415.5	106	0	18	--	S
				R-24-U	T-3-74	415.2	157	0	14	--	S
				R-14-U	T-4-74	414.9	91	68	23+	--	NP
				R-4-U	T-5-74	414.65	91	28	63+	0.44	U
				R-4-D	T-6-74	414.35	91	0	83	--	U
				R-14-D	T-7-74	414.2	91	0	91+	--	U
Grand Gulf, Miss.	198	407.0 to 406.3	Nov 74		G-8-74	407.0	101	8	20	0.40	U
					G-9-74	406.7	101	82	11	--	S
					G-10-74	406.5	101	0	13	--	S
					G-11-74	406.3	101	3	40	0.08	U
Goldbottom, Miss.	107	395.65 to 394.3	Sep 74	R-26-U	GB-1-74	395.65	101	0	88	--	U
				R-16-U	GB-2-74	395.35	101	8	93+	0.09	U
				R-9-U	GB-3-74	395.1	101	8	25	0.32	U
				R-0-D	GB-4-74	394.8	101	8	25	0.32	U
				R-7-D	GB-5-74U	394.65	101	24	64	0.37	U
				R-14-D	GB-6-74U	394.45	101	77	24+	--	NP
				R-21-D	GB-7-74U	394.3	101	54	47+	--	NP
Railroad Landing, Miss.	344	347.2 to 343.95	Sep-Oct 74		R-1-74U	347.2	121	103	18+	--	NP
					R-2-74U	346.95	131	44	35	1.26	S
					R-3-74U	346.8	121	121	0	--	S
					R-4-74U	346.65	126	126	0	--	S
					R-5-74U	346.5	121	121	0	--	S
					R-6-74U	346.2	181	98	38	2.58	S
					R-7-74U	346.0	151	151	0	--	S
					R-8-74U	345.8	151	82	31	2.65	S
					R-9-74U	345.5	136	68	40	1.70	S
					R-10-74U	345.2	136	67	31	2.16	S
					R-12-74U	344.6	181	94	19	--	S
					R-13-74U	344.3	131	103	25	4.12	S
					R-14-74U	343.95	121	109	9	--	S

(Continued)

Note: *Where bottom of boring did not completely penetrate Zone A sand stratum, a plus symbol is used to indicate that the thickness of stratum is greater than shown.*

* 1962 mileage.

** Ratio of overburden thickness not shown when Zone A sand was less than 20 ft thick or when Zone A sand thickness was greater than shown.

+ U = unstable; S = stable; NP = no prediction

Table 3 (Continued)

Revetment Site Location	Site No.	Miles Above Head of Passes	Date	Station or Range	Boring No.	Boring MAHP	Depth ft	Overburden Thickness ft	Zone A Thickness ft	R Values	Predictions
Vicksburg District, 1974 Borings (Continued)											
Glasscock Cutoff, Miss.-La.	345	344.2 to 339.85	Aug-Sep 74		G-1-74U	344.2	101	28	73+	0.38	U
					G-2-74U	343.9	101	58	43+	--	NP
					G-3-74U	343.65	101	53	48+	--	NP
					G-4-74U	343.35	101	83	18+	--	NP
					G-5-74U	343.05	132	123	9+	--	NP
					G-6-74U	342.85	101	101	0	--	S
					G-7-74U	342.55	101	101	0	--	S
					G-8-74U	342.3	101	82	19+	--	NP
					G-9-74U	342.0	116	103	13+	--	NP
					G-10-74U	341.85	101	32	22	1.45	S
					G-11-74U	341.65	101	58	43+	--	NP
					G-12-74U	341.4	101	77	24+	--	NP
					G-13-74U	341.25	101	44	57+	0.77	U
					G-14-74U	341.1	101	49	52+	--	NP
					G-15-74U	340.95	101	88	13+	--	NP
					G-16-74U	340.75	101	23	78+	0.29	U
					G-17-74U	340.55	101	53	48+	--	NP
					G-18-74U	340.35	101	9	20	0.45	U
					G 19-74U	340.1	101	48	53+	--	NP
					G-20-74U	339.85	101	19	69	0.28	U
Dead Man's Bend, Miss.	346	338.1 to 332.25	Sep-Oct-Nov 74		D-1-74U	338.1	111	73	38+	--	NP
					D-2-74U	337.9	111	68	43+	--	NP
					D-3-74U	337.8	101	101	0	--	S
					D-4-74U	337.6	116	81	35+	--	NP
					D-5-74U	337.4	101	73	28+	--	NP
					D-6-74	337.2	101	68	33+	--	NP
					D-7-74U	337.05	101	78	23+	--	NP
					D-8-74U	336.95	111	43	68+	0.63	U
					D-9-74U	336.8	111	58	53+	--	NP
					D-10-74U	336.6	116	33	83+	0.40	U
					D-11-74U	336.4	116	46	70+	0.65	U
					D-12-74U	336.2	121	42	79+	0.53	U
					D-13-74U	336.0	172	68	46	1.48	S
					D-14-74U	335.85	111	68	43+	--	NP
					D-15-74U	335.6	111	99	12+	--	NP
					D-16-74U	335.3	131	131	0	--	S
					D-17-74U	335.0	121	121	0	--	S
					D-18-74U	334.7	131	89	15	--	S
					D-19-74U	334.4	111	88	23+	--	NP
					D-20-74U	334.1	131	131	0	--	S
					D-21-74U	333.95	231	48	77	0.62	U
					D-22-74U	333.7	111	39	65	0.60	U
					D-23-74U	333.4	111	58	53+	--	NP
					D-24-74U	333.1	101	72	29+	--	NP
					D-25-74U	332.85	101	43	58+	0.74	U
					D-26-74U	332.55	101	47	54+	--	NP
					D-27-74U	332.25	101	58	43+	--	NP
Bougere Bend, La.	132	327.5 to 326.65	July-Aug 74		1-74U	327.5	101	89	12+	--	NP
					2-74U	327.2	101	82	11	--	S
					3-74U	326.95	101	88	10	--	S
					4-74U	326.65	99	88	11+	--	NP
Memphis District, 1975 Borings											
Wolf Island, Ky.	81	934.8 to 930.45	Jan 75	98+00	B-U-75	934.8	50	16	9	--	S
			July 73	108+00	A-U-73	934.6	52	8	21	0.38	U
				302+00	19-U-73	931.1	50	28	22+	--	NP
			Jan 75	312+00	20-U-75	930.9	50	19	31+	0.61	U
				322+00	21-U-75	930.65	50	2	48+	0.04	U
				332+00	22-U-75	930.45	70	4	54	0.07	U
Blaker Towhead, Tenn.	176	845.3 to 845.2	Mar 75	87+00	B-U-75	845.3	50	6	44+	0.14	U
				97+50	A-U-75	845.2	50	3	47+	0.06	U
Obion-Tamm, Tenn.	134	822.75 to 821.6	Mar 75	30+00	16-U-75	822.75	50	0	50+	--	U
				37+00	15-U-75	822.6	50	6	44+	0.14	U
				45+00	14-U-75	822.45	55	0	55+	--	U
				56+00	13-U-75	822.25	50	0	50+	--	U
				74+00	11-U-75	821.9	50	0	50+	--	U
				81+00	10-U-75	821.75	50	13	37+	0.35	U
				88+00	9-U-75	821.6	50	9	41+	0.21	U
Kate Aubrey, Tenn.	319	787.6 to 787.2	May 75	508+00	1-U-75	787.6	54	0	51	--	U
				522+00	2-U-75	787.4	53	15	38+	0.39	U
				537+00	3-U-75	787.2	50	7	43+	0.16	U
Fair Landing, Ark.	70	635.0 to 634.2	Sep 75	10+00	1-U-75	635.0	52	9	29	0.31	U
				20+00	2-U-75	634.9	52	8	20	0.40	U
				28+00	3-U-75	634.8	52	7	14	--	S
				40+00	4-U-75	634.7	61	18	15	1.20	S
				50+00	5-U-75	634.6	52	22	11	2.00	S
				60+00	6-U-75	634.5	52	26	7	3.71	S
				70+00	7-U 75	634.4	52	32	20+	--	NP
				80+00	8-U-75	634.3	52	8	15	--	S
				90+00	9-U-75	634.2	52	36	12	--	S
Vicksburg District, 1975 Borings											
Warfield Point, Miss.	347	537.0 to 536.6	Apr-May 75	R-12-D	WP-1-75U	537.0	77	43	34+	--	NP
				R-12-D	WP-2-75U	537.0	101	48	36	1.33	S
				R-18-D	WP-3-75U	536.8	101	43	51	0.84	U
				R-23-D	WP-4-75U	536.6	101	19	19	--	S

(Continued)

Table 3 (Concluded)

Revetment Site Location	Site No.	Miles Above Head of Passes	Date	Station or Range	Boring No.	Boring MAHP	Boring Depth ft	Overburden Thickness ft	Zone A Thickness ft	R Values	Predictions
Vicksburg District, 1975 Borings (Continued)											
Goodrich, La.	79	464.3 to 463.3	July 75	R-120-D	G-1-75U	464.3	106	106	0	--	S
				R-131-D	G-2-75U	464.0	101	13	55	0.24	U
				R-142-D	G-3-75	463.7	101	4	74	0.05	U
				R-158-D	G-4-75U	463.3	101	33	56	0.59	U
Natchez Front, Miss.	63	363.7 to 363.6	Oct 75	R-34-D	NF-1-75	363.65	41	41	0	--	S
				R-36-D	NF-2-75	363.6	56	56	0	--	S
				R-32-D	NF-3-75U	363.7	71	71	0	--	S
				R-34-D	NF-4-75	363.65	31	31	0	--	S
Memphis District, 1976 Borings											
Island No. 8, Ky.	189	913.2 to 912.8		124+85	1-U-76	913.2	49	20	29+	0.69	U
				136+00	2-U-76	913.0	80	27	53+	0.51	U
				145+00	3-U-76	912.8	50	31	19+	--	NP
Vicksburg District, 1976 Borings											
Grand Gulf, Miss.	185	408.6 to 407.2	Nov 74		G-1-74U	408.6	127	98	29+	--	NP
			June 76		G-2-76U	408.3	102	102	0	--	S
					G-3-76U	408.1	112	64	15	--	S
					G-4-76U	407.8	107	107	0	--	S
					G-5-76U	407.6	107	107	0	--	S
					G-6-76U	407.5	112	112	0	--	S
					G-7-76U	407.2	112	112	0	--	S
Memphis District, 1977 Borings											
New Madrid Bar, Mo.	213	887.75 to 886.0	June 77	98+00	1G	887.75	50	5	45+	0.11	U
				101+97	2G	887.65	50	9	41+	0.22	U
				108+00	3G	887.5	78	29	7	4.14	S
				115+00	4U	887.3	50	34	16+	--	NP
				124+00	5U	887.15	51	21	30+	0.70	U
				132+00	6U	886.95	50	15	35+	0.43	U
				139+50	7G	886.8	50	10	40+	0.25	U
				148+50	8G	886.65	50	6	44+	0.14	U
				157+00	9G	886.5	50	5	45+	0.11	U
				164+50	10G	886.35	50	--	45	--	U
				173+00	11G	886.15	50	10	40+	0.25	U
				181+00	12G	886.0	50	--	50+	--	U
Vicksburg District, 1977 Borings											
Dennis, Miss.	147	613.8 to 613.15	Oct 77		D-5-77	613.80	101	8	10	--	S
					D-4-77	613.65	101	101	0	--	S
					D-3-77	613.50	101	13	75	0.17	U
			Sep 77		D-2-77	613.35	101	33	68+	0.49	U
			Aug 77		D-1-77	613.15	101	43	25	1.72	S
Eutaw-Mounds, Miss.	193	559.35 to 558.10	Apr 77	R-140-D	M-1-77U	559.35	91	43	30	1.43	S
				R-147-D	M-2-77U	559.15	88	38	40	0.95	S
				R-154-D	M-3-77U	558.95	86	86	0	--	S
				R-160-D	M-4-77U	558.80	96	47	12	3.92	S
				R-166-D	M-5-77U	558.65	101	101	0	--	S
				R-171-D	M-6-77U	558.50	101	101	0	--	S
				R-178-D	M-7-77U	558.30	101	101	0	--	S
				R-186-D	M-8-77U	558.10	101	101	0	--	S

Table 4

Summary of Soil Conditions at 1974 Through 1977 Sites, New Orleans District

Revetment Site No.	Location	MAHP	Boring Date	Boring No.	MAHP	Ground Surface El ft, msl (1)	Thalweg El ft, msl (2)	Limiting Depth D_L ((1) - (2) + 50 ft) ft (3)	Boring Depth ft (4)	X ((3) - (4)) ft (5)	Overburden Thickness ft (6)	Zone A Thickness ft (7)	R (6)/(7) (8)	Prediction (9)
							1974 Sites							
297	Algiers, La.	94.5	Dec	W-94.5-U	94.5	20	-160	230	82	148	82	?	>0.85	S
			Dec	W-94.5-UT	94.5	9	-160	219	182	37	49	15	>0.85*	S
			Dec	W-94.5-UTL	94.5	10	-160	220	181	39	59	25	>0.85*	S
							1975 Sites							
348	Bayou Sara, La.	264.9	Jun	R-263.6-LU	264.9	40	-80	170	118	52	89	29+	>0.85*	S
		to	Aug	R-262.4-LU	263.9	46	-80	176	118	58	57	18	>0.85	S
		260.0	Jul	R-262.13L	263.6	46	-74	170	116	54	89	27+	>0.85*	S
			Jun	R-261.8-L	263.3	44	-74	168	139	29	90	49+	>0.85*	S
			Jun	R-261.4-L	262.8	46	-70	166	116	50	101	15+	>0.85*	S
			Jun	R-261.1-L	262.5	46	-58	154	119	35	100	19+	>0.85*	S
			Jun	R-260.7-L	262.1	46	-42	138	119	19	94	25+	>0.85*	S
			Jun	R-260.35-L	261.8	47	-40	137	104	33	88	16+	>0.85*	S
			Jun	R-259.65-L	261.1	48	-30	128	94	34	94	?	>0.85*	S
			Jun	R-258.5-L	260.0	47	-30	127	99	28	50	49+	?	NP
202	St. Gabriel, La.	199.9	Oct	E-199.5-UT	199.9	25	-110	185	148	37	120	28+	>0.85*	S
			Oct	E-199.5-UTL	199.9	19	-110	179	148	31	115	33+	>0.85*	S
260	Bonnet Carre Point, La.	134.8	Jan	W-134.8-UTL	134.8	13	-100	163	151	12	151	?	>0.85*	S
		to	Feb	W-134.7-UTL	134.7	13	-100	163	146	17	146	?	>0.85*	S
		134.6	Jan	W-134.6-UT	134.6	16	-100	166	151	15	28	123+	0.23	U
			Jan	W-134.6-UTL	134.6	12	-100	162	78	84	23	55+	0.42	U
293	Carrolton, La.	102.7	Jun	E-102.7-U	102.7	23	-90	163	119	44	54	65+	0.83	U
		101.6	Jun	E-101.6-LU	101.6	22	-130	202	174	28	83	91+	?	NP
332	Nashville Ave. Failure,	100.3	May	3-GEU	100.30	24	-80	154	111	43	55	56+	?	NP
	New Orleans, La.	to	May	2-GE	100.00	22	-80	152	112	40	0	46	--	U
		99.95	May	4-GEU	99.97	24	-80	154	111	43	0	37	--	U
			May	1-GE	99.95	7	-80	137	68	69	9	59+	0.15	U

(Continued)

Note: MAHP is Miles Above Head of Passes.

Col	Notation	Explanation
5	--	Not applicable if zone A was fully penetrated or if total depth of boring exceeded D_L.
7	+	Zone A not fully penetrated.
8	*	R >0.85 even if zone A thickness (5 + 7) thick.
9	U	Unstable with regard to flow failure.
	S	Stable with regard to flow failure.
	NP	No prediction possible.

Table 4 (Continued)

Revetment Site No.	Location	MAHP	Boring Date	Boring No.	MAHP	Ground Surface El ft, msl (1)	Thalweg El ft, msl (2)	Limiting Depth D_L ((1) - (2) + 50 ft) ft (3)	Boring Depth ft (4)	X ((3) - (4)) ft (5)	Overburden Thickness ft (6)	Zone A Thickness ft (7)	R (6)/(7) (8)	Prediction (9)
						1975 Sites (Continued)								
332	Public Grain Elevator Failure, New Orleans, La.	100.45 to 99.2	May	10-GEU	100.45	17	-90	157	111	46	23	88+	0.26	U
			May	5-GEU	100.00	20	-80	150	111	39	34	64	0.53	U
			May	6-GEU	99.75	16	-80	146	111	35	31	72	0.44	U
			May	7-GEU	99.65	16	-90	156	111	45	26	79	0.33	U
			May	9-GEU	99.50	15	-90	155	111	44	27	81	0.33	U
			May	8-GEU	99.40	16	-80	146	111	35	27	84+	0.32	U
			May	11-GEU	99.20	19	-110	179	111	68	42	64	0.66	U
297	Algiers, La.	95.1 to 93.4	Jan	W-95.1-UT	95.1	14	-140	204	179	25	46	27	>0.85*	S
			Jan	W-94.9-UT	94.9	19	-150	219	182	37	61	82	0.74	U
			Jan	W-94.9-UTL	94.9	10	-150	210	181	29	31	104	0.29	U
			Jan	W-94.7-UT	94.7	11	-170	231	182	49	62	97	0.64	U
			Jan	W-94.7-UTL	94.7	20	-170	240	181	59	72	91	0.79	U
			Jan	W-93.9-UT	93.9	11	-170	231	179	52	63	26	>0.85*	S
						1976 Sites								
337	Point Breeze, La.	308.4 to 308.2	Jul	W-306.5-UT	308.4	49	-40	139	94	45	65	29+	>0.85*	S
			Jul	W-306.0-UT	308.2	45	-40	135	116	19	116	?	>0.85*	S
349	Carr Point, La.	303.1 to 302.3	Aug	W-301.2-UT	303.1	38	-90	178	86	92	60	26+	?	NP
			Oct	W-300.8-GT	302.8	35	-70	155	39	116	22	15	>0.85	S
			Aug	W-300.4-UT	302.3	50	-40	140	69	71	57	12+	?	NP
350	Smithland, La.	299.6 to 299.4	Sep	W-299.6-UT	299.6	47	-30	127	84	43	84	?	>0.85*	S
			Oct	W-299.0-UT	299.4	48	-30	128	84	44	45	39+	?	NP
351	Morganza, La.	280.2 to 275.3	Jul	W-280.2-UT	280.2	43	-70	163	78	85	78	?	>0.85*	S
			Jul	W-279.2-UT	279.0	45	-80	175	78	97	78	?	>0.85	S
			Nov	W-277.7-UT	277.7	39	-70	159	120	39	90	30+	>0.85*	S
			Dec	W-276.9-UT	276.9	37	-40	127	120	7	100	20+	>0.85*	S
			Dec	W-275.3-UT	275.3	35	-70	155	128	27	103	25+	>0.85*	S
348	Bayou Sara, La.	261.3 to 260.35	Feb	R-259.85-LU	261.3	47	-30	127	121	6	103	6	>0.85*	S
			Feb	R-259.27-L	260.8	47	-30	127	121	6	116	5+	>0.85*	S
			Feb	R-258.87-L	260.35	47	-30	127	121	6	92	26	>0.85*	S
282	Scottlandville, La.	232.3	Feb	R-231.4-L	232.3	38	-50	138	142	--	142	0	0.85	S
253	St. Elmo, La.	174.0	May	E-174.0-UT	174.0	26	-90	166	141	25	110	29	>0.85*	S

(Continued)

Table 4 (Concluded)

Revetment Site No.	Revetment Site Location	Revetment Site MAHP	Boring Date	Boring No.	Boring MAHP	Ground Surface El ft, msl (1)	Thalweg El ft, msl (2)	Limiting Depth D_L ((1) - (2) + 50 ft) ft (3)	Boring Depth ft (4)	X ((3) - (4)) ft (5)	Overburden Thickness ft (6)	Zone A Thickness ft (7)	R (6)/(7) (8)	Prediction (9)
						1976 Sites (Continued)								
333	New Orleans Harbor, La.	94.8 to 94.55	Jan	E-94.78-U	94.8	17	-150	217	202	15	125	26	>0.85*	S
			Feb	E-94.72-U	94.75	12	-150	212	196	16	116	17	>0.85*	S
			Feb	E-94.67-G	94.7	12	-160	222	200	22	66	15	>0.85*	S
			Jan	E-94.63-U	94.65	21	-160	231	202	29	202	?	>0.85*	S
			Jan	E-94.55-G	94.55	15	-160	225	200	25	86	10	>0.85*	S
352	Belle Chasse, La.	76.4	Nov	W-76.4-UT	76.4	10	-90	150	142	8	142	?	>0.85*	S
						1977 Sites								
244	Hog Point, La.	299.0 to 298.4	Sep	R-297.3-R	299.0	49	-15	114	101	13	83	18+	>0.85*	S
			Sep	R-297.0-R	298.7	52	-15	117	101	16	88	13+	>0.85*	S
			Sep	R-296.8-R	298.4	50	-15	115	101	14	35	66+	0.53	U
353	St. Maurice, La.	272.7 to 271.2	Jan	W-272.7-UT	272.7	37	-50	137	119	18	86	32+	>0.85*	S
			Jan	W-271.2-UT	271.2	37	-50	137	78	59	78	?	>0.85*	S
354	Red Store Landing, La.	269.0 to 267.4	Feb	W-269.0-UT	269.0	37	-100	187	160	27	91	50	>0.85*	S
			Jan	W-266.7-GT	268.1	39	-60	149	49	100	49	?	>0.85	S
			Jan	W-268.0-GT	268.0	36	-50	136	44	92	35	9+	?	NP
			Jan	W-267.4-GT	267.4	36	-30	116	50	66	50	?	>0.85	S
355	Point Coupee, La.	265.8 to 264.7	Jan	W-265.8-GT	265.8	39	-30	119	49	70	44	5+	?	NP
			Jan	W-265.3-GT	264.7	38	-90	178	50	128	50	?	>0.85	S
356	Waterloo, La.	260.2	Jan	W-260.3-UT	260.2	38	-40	128	98	30	27	71+	0.38	U
292	Avondale, La.	106.2 to 106.15	Aug	W-106.2	106.2	15	-75	140	64	76	64	?	>0.85	S
			Aug	W-106.0	106.15	15	-75	140	60	80	60	?	>0.85	S
298	Third District, La.	92.4 to 90.8	Jun	E-92.4-UT	92.4	8	-80	138	119	19	119	?	>0.85*	S
			Sep	E-91.09-UT	91.2	8	-70	128	111	17	111	?	>0.85*	S
			Aug	E-90.8-UT	90.8	8	-65	123	118	5	80	38	>0.85*	S
301	Oak Point, La.	75.2 to 72.8	Feb	W-75.2-UT	75.2	7	-90	147	142	5	142	?	>0.85*	S
			Jan	W-74.6-UT	74.6	3	-95	148	141	7	141	?	>0.85*	S
			Jan	W-73.7-UT	73.7	8	-80	138	142	--	142	0	>0.85	S
			Feb	W-72.8-UT	72.8	7	-115	172	142	30	142	?	>0.85*	S

Table 5

Summary of Predictions, 1974 Through 1977 Borings in New Orleans District

Revetment Site			Number	Predictions**				
No.	Location	Miles Above Head of Passes*	of Borings	Stable (A)	Stable (B)	Stable (C)	Unstable	No Prediction Possible (D)
		1974 Borings						
297	Algiers, La.	94.5	3	1	2	--	--	--
		Total	3	1	2	0	0	0
		1975 Borings						
348	Bayou Sara, La.	264.9 to 260.0	10	1	1	7	--	1
202	St. Gabriel, La	199.9	2	--	--	2	--	--
260	Bonnet Carré Point, La.	134.8 to 134.6	4	2	--	--	2	--
293	Carrolton, La.	102.7 to 101.6	2	--	--	--	1	1
332	Nashville Avenue, New Orleans, La.	100.3 to 99.95	4	--	--	--	3	1
332	Public Grain Elevator, New Orleans, La.	100.45 to 99.2	7	--	--	--	7	--
297	Algiers, La.	95.1 to 93.4	6	--	2	--	4	--
		Total	35	3	3	9	17	3

(Continued)

* 1962 mileage.

** (A) No Zone A sand encountered in boring.
(B) Zone A sand fully penetrated, R value > 0.85.
(C) Zone A sand not fully penetrated, but R value > 0.85 based on D_L concept.
(D) Zone A sand not fully penetrated and boring not carried to D_L ; R value could be either greater or less than 0.85.

Table 5 (Concluded)

Revetment Site			Number	Predictions				
No.	Location	Miles Above Head of Passes	of Borings	Stable (A)	Stable (B)	Stable (C)	Unstable	No Prediction Possible (D)
		1976 Borings						
337	Point Breeze, La.	308.4 to 308.2	2	1	--	1	--	--
349	Carr Point, La.	303.1 to 302.3	3	--	1	--	--	2
350	Smithland, La.	299.6 to 299.4	2	1	--	--	--	1
351	Morganza, La.	280.2 to 275.3	5	2	--	3	--	--
348	Bayou Sara, La.	261.3 to 260.35	3	2	--	1	--	--
282	Scotlandville, La.	232.3	1	1	--	--	--	--
253	St. Elmo, La.	174.0	1	--	1	--	--	--
333	New Orleans Harbor, La.	94.8 to 94.55	5	1	4	--	--	--
352	Belle Chasse, La.	76.4	1	1	--	--	--	--
		Total	23	9	6	5	0	3
		1977 Borings						
244	Hog Point, La.	299.0 to 298.4	3	--	--	2	1	--
353	St. Maurice, La.	272.7 to 271.2	2	1	--	1	--	--
354	Red Store Landing, La.	269.0 to 267.4	4	2	1	--	--	1
355	Pointe Coupee, La.	265.8 to 264.7	2	1	--	--	--	1
356	Waterloo, La.	260.2	1	--	--	--	1	--
292	Avondale, La.	106.2 to 106.15	2	2	--	--	--	--
298	Third District, La.	92.4 to 90.8	3	2	1	--	--	--
301	Oak Point, La.	75.2 to 72.8	4	4	--	--	--	--
		Total	21	12	2	3	2	2

Table 6

Summary of Performance Data at Sites Previously Studied

No.	Revetment Site Location	Potamology Report in Which Borings Are Evaluated	Predicted Performance with Regard to Flow Failure	Estimated Maximum River Stage Referenced to Bank-Full Conditions (ft) Observed Performance (Letter Symbols) 54	55	56	57	58	59	60	61	62	63	64	65	66	67	68	69	70	71	72	73	74	75	76	77
													MEMPHIS DISTRICT															
	Cairo, Ill., 954 MAHP																							+8	+12	-2	-3
341	Sta 353+00 to 371+50	12-24	Stable																					R	N	N	N
341	Sta 379+50		Unstable																					R	N	N	N
341	388+00		Stable																					R	N	N	N
	Mayfield Creek, Ky., 950 MAHP																				+5	+5	+12	+8	+12	-2	-3
318	Sta 11+15 to 55+00	12-22	Stable																		R	N	N	N	N	N	N
318	Sta 65+00		Unstable																		-	-	-	-	-	-	-
318	Sta 75+00		Stable																		-	-	-	-	-	-	-
	Prichard, Mo., 947 MAHP			+7	+1	+2	0	-4	-3	+10	+6	+8	+4	+3	+3	+1	-1	+3	+5	+5	+5	+12	+8	+12	-2	-3
14	Sta 264+00 to 284+00	12-24	Stable	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N
	Campbell Point, Ky., 943 MAHP			+5	-1	0	-1	-4	+3	+10	+6	+8	+2	+2	+3	+1	-1	+2	+4	+4	+4	+11	+7	+11	-3	-4
111	Sta 127+00 to 137+00	12-11	Stable							~	-	-	-	-	-	-	-	-	~	-	-	-	-	-	-	-	-
15	Sta 147+00 to 196+00	12-4	Stable	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N
15	Sta 205+00	12-4	No prediction	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N
111	Sta 215+00 to 225+00	12-11	Stable							~	-	-	-	-	-	-	-	-	~	-	-	-	-	-	-	-	-
	Islands 2, 3, 4, Ky., 940 MAHP						+2	0	-4	+3	+10	+6	+8	+4	+3	+3	+1	-1	-2	+4	+4	+4	+11	+7	+11	-3	-4
235	Sta 13+00 to 43+00	12-21	Stable																-	~	-	-	-	-	-	-	-
235	Sta 53+00		Unstable																-	~	-	-	-	-	-	-	-
47	Sta 64+00	12-7	Unstable				N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N
47	Sta 74+00 to 93+75		Stable				N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N
47	Sta 104+25		No prediction				N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N
47	Sta 114+00 to 173+50		Stable				N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N
47	Sta 183+00 to 193+50		Unstable				N	O	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N
47	Sta 203+25 to 214+00		No prediction				N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N
	Wolf Island, Ky., 934 MAHP								-4	+3	+10	+6	+7	+4	+3	+3	+1	-1	+2	+4	+4	+4	+11	+7	+11	-3	-4
81	Sta 98+00	12-24	Stable																					-	-	-	-
81	Sta 108+00		Unstable																					-	-	-	-
81	Sta 120+00	12-9	Stable						-	-	-	-	-	-	-	-	-	-	-	-	-	-	R	N	N	N	N

(Continued)

Note: Site locations are listed in order of miles above Head of Passes (MAHP) from upstream to downstream. Predictions for all sites based on modified classification criteria.

N = No failure reported.
- = No revetment built.
R = Revetment built.
F = Flow failure occurred as predicted.
(F) = Flow failure occurred at location predicted to be stable.
F = Flow failure occurred; prediction not possible since zone A sand was not sufficiently penetrated.
O = Failure other than flow type occurred.
RO = Revetment built and failure other than flow type occurred in the same year.

Table 6 (Continued)

Revetment Site No.	Revetment Site Location	Potamology Report in Which Borings Are Evaluated	Predicted Performance with Regard to Flow Failure	Estimated Maximum River Stage Referenced to Bank-Full Conditions (ft) Observed Performance (Letter Symbols) 54	55	56	57	58	59	60	61	62	63	64	65	66	67	68	69	70	71	72	73	74	75	76	77
				MEMPHIS DISTRICT (Continued)																							
	Wolf Island, Ky., 934 MAHP (Continued)																				+4						
81	Sta 130+00		Unstable						-	-	-	-	-	-	-	-	-	-	-	-	-	-	R	N	N	N	N
81	Sta 140+00 to 160+00		Unstable						R	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N
81	Sta 172+00		Stable						R	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N
81	Sta 182+00 to 192+50		Unstable						R	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N
81	Sta 203+50 to 224+00		Stable						-	-	-	-	-	-	-	-	R	N	N	N	N	N	N	N	N	N	N
81	Sta 234+00		Unstable						-	-	-	-	-	-	-	-	R	N	N	N	N	N	N	N	N	N	N
81	Sta 244+00		No prediction						-	-	-	-	-	-	-	-	R	N	N	N	N	N	N	N	N	N	N
81	Sta 254+00		Unstable						-	-	-	-	-	-	-	-	-	R	N	N	N	N	N	N	N	N	N
81	Sta 264+00 and 273+50		Stable						-	-	-	-	-	-	-	-	-	R	N	N	N	N	N	N	N	N	N
81	Sta 284+00 and 294+00		Unstable						-	-	-	-	-	-	-	-	-	-	-	-	-	-	R	N	N	N	N
81	Sta 302+00	12-24	No prediction																					-	-	-	-
81	Sta 312+00 to 332+00		Unstable																					-	-	-	-
	Williams, Ky., 927 MAHP										+10	+6	+8	+4	+3	+3	+1	-1	+2	+4	+4	+4	+11	+7	+11	-3	-4
112	Sta 100+00 to 110+00	12-11	Stable								-	-	-	-	-	-	-	-	-	-	-	-	-	R	N	N	N
112	Sta 120+50 to 130+50		Stable								R	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N
	Hickman-Reelfoot, Ky., 919 MAHP										+10	+6	+7	+4	+2	+3	+1	-2	+2	+4	+4	+4	+11	+7	+11	-3	-4
113	Sta 285+00		Stable								-	-	-	-	-	-	-	-	R	N	N	N	N	N	N	N	N
113	Sta 295+00		No prediction								-	-	-	-	-	-	-	-	R	N	N	N	N	N	N	N	N
113	Sta 305+00 and 315+00		Stable								-	-	-	-	-	-	-	-	R	N	N	N	N	N	N	N	N
236	Sta 326+00	12-21	Unstable																-	-	-	-	-	-	-	-	-
236	Sta 336+00		Stable																-	-	-	-	-	-	-	-	-
236	Sta 347+00 to 357+00	12-24	Stable																					-	-	-	-
	Island No. 8, Ky., 914 MAHP			+1	-1	-4	+3	+10	+6	+7	+4	+3	+3	+1	-2	+2	+4	+4	+4	+11	+7	+11	-3	-4			
48	Sta 25+75 and 36+00	12-7	Unstable	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N
48	Sta 46+00		No prediction	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N
48	Sta 56+00		Stable	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N
48	Sta 66+00 to 86+00		Unstable	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N
189	Sta 100+00	12-19	Stable														-	-	-	-	-	-	R	N	N	N	N
189	Sta 110+00 to 120+00		Unstable														-	-	-	-	-	-	R	N	N	N	N
189	Sta 124+85 to 136+00	12-24	Unstable																							R	N
189	Sta 145+00		No prediction																							-	-
	Island No. 9, Ky., 907 MAHP																							+7	+11	-3	-4
342	Sta 7+50 to 45+50	12-24	Unstable																					R	N	N	N
342	Sta 63+50		Stable																					R	N	N	N

(Continued)

Table 6 (Continued)

No.	Revetment Site Location	Potamology Report in Which Borings Are Evaluated	Predicted Performance with Regard to Flow Failure	Estimated Maximum River Stage Referenced to Bank-Full Conditions (ft) Observed Performance (Letter Symbols)																					
				54	55	56	57	58	59	60	61	62	63	64	65	66	67	68	69	70	71	72	73	74	75	76	77
				MEMPHIS DISTRICT (Continued)																					
	Milton Bell, Mo., 907 MAHP																			+4	+4	+4	+11	+7	+11	-3	-4
315	Sta 99+00	12-22	Unstable																	-	R	N	N	N	N	N	N
315	Sta 110+00 to 260+00		Stable																	-	R	N	N	N	N	N	N
	Winchester Towhead, Mo., 901 MAHP																					+4	+11	+7	+11	-3	-4
326	Sta 122+90 to 141+65	12-23	Stable																			-	-	-	-	-	-
326	Sta 152+00		Unstable																			-	-	-	-	-	-
326	Sta 161+50 and 172+00		Stable																			-	-	R	N	N	N
326	Sta 182+00		No prediction																			-	-	R	N	N	N
326	Sta 191+50		Stable																			-	-	R	N	N	N
326	Sta 201+35 and 212+00		Unstable																			-	-	-	-	R	N
	Slough Landing Neck, Tenn., 895 MAHP							-1	-4	+3	+10	+6	+7	+3	+2	+4	+2	-2	+1	+3	+4	+4	+11	+7	+11	-3	-4
64	Sta 312+00 to 332+00	12-8	Stable					N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N
64	Sta 340+75 to 351+75		Unstable					N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N
64	Sta 362+50		Stable					N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N
64	Sta 372+00		Unstable					N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N
64	Sta 381+25 to 392+00		Stable					N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N
64	Sta 402+00		Unstable					-	R	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N
64	Sta 412+75		Stable					-	R	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N
64	Sta 422+50		Stable					-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
98	Sta 432+50	12-10	Unstable					-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
98	Sta 442+50		Stable					-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	La Forge, Mo., 891 MAHP					-6	+1	-1	-4	+3	+10	+5	+7	+3	+2	+4	+2	-2	+1	+3	+4	+4	+11	+7	+11	-3	-4
99	Sta 105+00 to 125+00	12-10	Stable							-	-	-	-	-	R	N	N	N	N	N	N	N	N	N	N	N	N
29	Sta 146+00	12-6	Unstable			N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N
29	Sta 156+00 to 176+00		Stable			N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N
29	Sta 186+00		Unstable			N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N
29	Sta 195+00 to 217+50		Stable			N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N
29	Sta 227+50		Unstable			N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N
29	Sta 238+00 to 257+50		Stable			N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N
	Kentucky Point, Ky., 886 MAHP																		+1	+3	+4	+4	+11	+7	+11	-3	-4
237	Sta 106+00	12-21	Stable																-	-	-	-	-	-	-	-	-
237	Sta 115+15 to 130+00		Unstable																-	-	-	-	-	-	-	-	-
237	Sta 135+05		Stable																-	-	-	-	-	-	-	-	-
237	Sta 145+20 to 175+60		Unstable																-	-	-	R	N	N	N	N	N
237	Sta 182+30		No prediction																-	-	-	R	N	N	N	N	N

(Continued)

Table 6 (Continued)

Revetment Site No.	Location	Potamology Report in Which Borings Are Evaluated	Predicted Performance with Regard to Flow Failure	Estimated Maximum River Stage Referenced to Bank-Full Conditions (ft) Observed Performance (Letter Symbols) 54	55	56	57	58	59	60	61	62	63	64	65	66	67	68	69	70	71	72	73	74	75	76	77
				MEMPHIS DISTRICT (Continued)																							
	New Madrid Bend, Mo., 882 MAHP																	-2	+1	+3	+4	+4	+11	+7	+11	-3	-4
213	Sta 98+00 to 101+97	12-24	Unstable																								-
213	Sta 108+00		Stable																							R	N
213	Sta 115+00		No prediction																							R	N
213	Sta 124+00		Unstable																							R	N
213	Sta 132+00 to 181+00		Unstable																								R
213	Sta 435+00 to 475+00	12-21	Unstable															-	-	-	-	-	-	-	-	-	-
213	Sta 485+00 to 505+00		Stable															-	-	-	-	-	-	-	-	-	-
213	Sta 512+00		Unstable															-	-	-	-	-	-	-	-	-	-
	Toney's Towhead, Tenn., 880 MAHP				0	-6	+1	-1	-4	+2	+9	+5	+6	+3	+2	+4	+2	-2	+1	+3	+4	+4	+10	+6	+10	-4	-5
1	Sta 236+00	12-3	Unstable		N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N
1	Sta 245+00		Stable		N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N
1	Sta 255+00		No prediction		N	N	N	N	N	F	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N
1	Sta 265+00 to 274+25		Unstable		N	N	N	N	N	N	F	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N
	Merriweather-Cherokee Bend, Tenn., 870 MAHP				0	-6	0	-1	-4	+2	+9	+5	+6	+3	+2	+4	+2	-3	+1	+3	+4	+4	+10	+6	+10	-4	-5
175	Sta 78+00	12-18	Unstable													N	N	N	N	N	N	N	N	N	N	N	N
175	Sta 88+00 and 98+50		Stable													N	N	N	N	N	N	N	N	N	N	N	N
2	Sta 326+00	12-3	Stable	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
2	Sta 336+00		Stable	-	-	-	-	-	R	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N
49	Sta 344+00	12-7	Unstable			-	-	-	R	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N
49	Sta 353+75 to 363+75		Stable			-	-	-	R	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N
49	Sta 374+75		No prediction			-	-	-	-	R	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N
327	Sta 590+00	12-23	Stable				-	-	-	R	N	N	N	N	N	N	N	N	N	N	N	-	R	N	N	N	N
327	Sta 599+00		Unstable																			-	R	N	N	N	N
	Little Cypress Bend, Mo., 863 MAHP				0	-6	0	-1	-4	+2	+9	+5	+6	+3	+2	+4	+2	-3	+1	+3	+3	+3	+10	+6	+10	-4	-5
3	Sta 104+50	12-3	No prediction	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
3	Sta 115+00		Stable	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
3	Sta 124+25 to 145+75		Stable	-	-	-	-	-	-	-	-	-	-	R	N	N	N	N	N	N	N	N	N	N	N	N	N
3	Sta 160+50		Unstable	R	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N
3	Sta 170+00 and 180+25		Stable	R	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N
3	Sta 191+00		Unstable	R	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N
3	Sta 203+00		No prediction	R	N	N	N	O	N	N	N	N	N	N	N	N	O	N	N	O	N	N	N	N	N	N	N
3	Sta 213+00		Stable	R	N	N	N	N	N	N	N	N	N	N	N	N	O	N	N	N	N	N	N	N	N	N	N
3	Sta 223+75		No prediction	R	N	O	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N
3	Sta 232+75 to 303+75		Stable	R	N	N	N	N	O	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N
50	Sta 318+00 to 339+00	12-7	Stable	-	R	N	N	N	O	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N
82	Sta 390+00 and 400+00	12-9	Stable	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

(Continued)

Table 6 (Continued)

No.	Revetment Site Location	Potamology Report in Which Borings Are Evaluated	Predicted Performance with Regard to Flow Failure	Estimated Maximum River Stage Referenced to Bank-Full Conditions (ft) Observed Performance (Letter Symbols) 54	55	56	57	58	59	60	61	62	63	64	65	66	67	68	69	70	71	72	73	74	75	76	77
	MEMPHIS DISTRICT (Continued)																										
	Little Cypress Bend, Mo., 863 MAHP (Continued)																										
82	Sta 410+00		Unstable	-	-	-	-	-	-	R	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N
82	Sta 420+00		Stable	-	-	-	-	-	-	R	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N
82	Sta 430+00		Unstable					-	-	-	-	-	R	N	N	N	N	N	N	N	N	N	N	N	N	N	N
168	Sta 430+00 to 441+00	12-17	Stable										R	N	N	N	N	N	N	N	N	N	N	N	N	N	N
168	Sta 451+00		Stable										-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	Above Lee Towhead, Tenn., 860 MAHP																					+3	+10	+6	+10	-4	-5
328	Sta 147+00 to 191+50	12-23	Unstable																			R	N	N	N	N	N
	Lee Towhead, Mo., 858 MAHP							-1	-4	+2	+9	+5	+6	+2	+2	+4	+2	-3	+1	+3	+3	+3	+10	+6	+10	-4	-5
65	Sta 100+00	12-8	Stable					-	-	-	-	-	R	N	N	N	N	N	N	N	N	N	N	N	N	N	N
65	Sta 110+00		Unstable					-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
65	Sta 120+00 to 150+00		Stable					-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
65	*Sta 160+00*		*Unstable*					-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
65	Sta 170+00 and 178+00		Stable					-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	Fritz Landing, Tenn., 856 MAHP											+5	+6	+2	+2	+4	+2	-3	0	+2	+3	+3	+10	+6	+10	-4	-5
133	Sta 70+00	12-13	Unstable										-	R	N	N	N	N	N	N	N	O	N	N	N	N	N
133	Sta 80+00		No prediction										-	R	N	N	N	N	N	N	N	N	N	N	N	N	N
133	Sta 90+00 and 100+00		Stable										-	R	N	N	N	N	N	N	N	O	N	N	N	N	N
122	Sta 110+00	12-12	Unstable									-	-	R	N	N	N	N	N	N	N	N	N	N	N	N	N
122	Sta 120+00 and 130+00		Stable									N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N
122	Sta 140+00		No prediction									N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N
122	Sta 150+00 to 170+00		Stable									N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N
122	Sta 180+00		No prediction									N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N
122	Sta 190+00		Stable									N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N
122	Sta 200+00		No prediction									R	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N
	Hathaway Landing, Tenn., 852 MAHP			0	-6	0	-1	-4	+2	+9	+5	+6	+2	+2	+4	+2	-3	0	+2	+3	+3	+10	+6	+10	-4	-5
4	Sta 210+00 to 230+00	12-3	No prediction	-	-	-	-	-	-	R	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N
4	Sta 240+00 to 250+00		Stable	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
4	Sta 260+00		Unstable	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
4	Sta 270+00 to 290+00		Stable	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
4	Sta 303+00		*Unstable*	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
4	Sta 312+00 and 322+00		Stable	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

(Continued)

Table 6 (Continued)

Revetment Site No.	Revetment Site Location	Potamology Report in Which Borings Are Evaluated	Predicted Performance with Regard to Flow Failure	Estimated Maximum River Stage Referenced to Bank-Full Conditions (ft) Observed Performance (Letter Symbols) 54	55	56	57	58	59	60	61	62	63	64	65	66	67	68	69	70	71	72	73	74	75	76	77
				MEMPHIS DISTRICT (Continued)																							
	Robinson Bayou, Mo., 850 MAHP																										
316	Sta 240+00 to 270+00	12-22	Unstable																	+2	+3	+3	+10	+6	+10	-4	-5
316	Sta 280+00		Stable																	–	–	R	N	N	N	N	N
316	Sta 292+00 to 312+00		Unstable																	–	–	R	N	N	N	N	N
316	Sta 322+00 to 335+00		Stable																	–	–	R	N	N	N	N	N
316	Sta 344+00	12-23	Stable																	–	–	R	N	N	N	N	N
																						–	R	N	N	N	N
	Blaker Towhead, Tenn., 845 MAHP																										
176	Sta 107+00 to 136+00	12-18	Unstable													+5	+2	-3	0	+2	+2	+2	+9	+5	+9	-5	-6
176	Sta 151+00		No prediction													N	N	N	N	N	N	N	N	N	N	N	N
176	Sta 167+00		Unstable													N	N	N	N	N	N	N	N	N	N	N	N
214	Sta 188+00	12-21	Unstable													N	N	N	N	N	N	N	N	N	N	N	N
214	Sta 198+00		Stable															–	–	–	–	–	–	–	–	–	–
214	Sta 200+00 to 203+50		No prediction															–	–	–	–	–	–	–	–	–	–
214	Sta 208+00		Unstable															–	–	–	–	–	–	–	–	–	–
214	Sta 208+50		No prediction															–	–	–	–	–	–	–	–	–	–
214	Sta 212+00 to 254+00		Unstable															–	–	–	–	–	–	–	–	–	–
214	Sta 258+00		Stable															–	–	R	N	N	N	N	N	N	N
																		–	–	–	–	–	–	–	–	–	–
	Linwood Bend, Tenn., 840 MAHP				0	-5	0	-2	-5	+2	+9	+5	+6	+2	+2	+5	+2	-3	0	+2	+2	+2	+9	+5	+9	-5	-6
16	Sta 280+00 to 292+00	12-4	Stable		N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N
	Heloise, Tenn., 830 MAHP				0	-6	0	-2	-4	+2	+9	+4	+6	+2	+2	+5	+3	-4	0	+2	+2	+2	+9	+5	+9	-5	-6
5	Sta 98+40 to 128+00	12-3	Stable		N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N
5	Sta 138+00 to 158+00		Unstable		N	N	N	N	O	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N
5	Sta 168+00 to 178+20		No prediction		N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N
5	Sta 188+00 to 208+10		Stable		N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N
5	Sta 218+00		Unstable		N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N
	Obion Bar, Tenn., 821 MAHP												+5	+2	+1	+5	+3	-4	0	+2	+2	+2	+9	+5	+9	-5	-6
134	Sta 30+00 to 88+00	12-24	Unstable																						–	R	N
134	Sta 102+00	12-13	Stable										–	–	–	–	–	–	–	–	–	–	–	–	R	N	N
134	Sta 112+00		Unstable										–	–	–	–	–	–	–	–	–	–	–	R	N	N	N
134	Sta 122+00		Stable										–	–	–	–	–	–	–	–	–	–	–	R	N	N	N
134	Sta 132+00 and 142+00		Stable										N	N	N	N	N	N	N	N	N	N	N	N	N	N	N
134	Sta 152+00		Unstable										N	N	N	N	N	N	N	N	N	N	N	N	N	N	N
134	Sta 159+00		No prediction										N	N	N	N	N	N	N	N	N	N	N	N	N	N	N
	Tamm Bend, Tenn., 817 MAHP					-6	0	-2	-5	+2	+9	+4	+5	+2	+1	+5	+3	-4	0	+2	+2	+1	+8	+4	+8	-6	-6
51	Sta 83+00	12-7	Unstable				N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N
51	Sta 93+00 to 113+00		Stable				N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N

(Continued)

Table 6 (Continued)

No.	Revetment Site Location	Potamology Report in Which Borings Are Evaluated	Predicted Performance with Regard to Flow Failure	Estimated Maximum River Stage Referenced to Bank-Full Conditions (ft) Observed Performance (Letter Symbols) 54	55	56	57	58	59	60	61	62	63	64	65	66	67	68	69	70	71	72	73	74	75	76	77
				MEMPHIS DISTRICT (Continued)																							
	Tamm Bend, Tenn., 817 MAHP (Continued)																										
30	Sta 123+00 to 164+00	12-6	Stable			N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N
30	Sta 174+50		*Unstable*			N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N
30	Sta 184+50		No prediction			N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N
30	Sta 195+50		Stable			N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N
30	Sta 205+00 to 214+50		No prediction			N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N
30	Sta 225+00 to 236+00		Stable			N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N
30	Sta 246+50		Unstable			N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N
30	Sta 259+00 to 269+50		Stable			N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N
100	Sta 280+00	12-10	Unstable							-	-	-	R	N	N	N	N	N	N	N	N	N	N	N	N	N	N
51	Sta 290+00 to 310+00	12-7	Stable				-	-	-	-	-	-	R	N	N	N	N	N	N	N	N	N	N	N	N	N	N
100	Sta 321+00	12-10	*Stable*							-	-	-	R	N	N	N	N	N	N	N	N	N	N	N	N	N	N
100	Sta 331+00		Unstable							-	-	-	R	N	N	N	N	N	N	N	N	N	N	N	N	N	N
100	Sta 341+00 to 361+00		Stable							-	-	-	R	N	N	N	N	N	N	N	N	N	N	N	N	N	N
100	Sta 386+00 and 394+77	12-23	Stable																			-	R	N	N	N	N
100	Sta 405+00 and 415+60		No prediction																			-	R	N	N	N	N
	Barfield, Ark., 809 MAHP			0		-6	-1	-2	-4	+1	+8	+4	+5	+2	+1	+5	+3	-4	-1	+1	+1	+1	+8	+4	+8	-6	-6
6	Sta 269+00 to 307+00	12-3	Stable	N		N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N
6	Sta 320+00 to 352+00		No prediction	N		N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N
6	Sta 362+00		Stable	N		N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N
6	Sta 372+00		No prediction	N		N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N
6	Sta 380+00 to 392+00		Stable	N		N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N
6	Sta 403+00		No prediction	N		N	O	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N
6	Sta 412+75 to 471+00		Stable	N		N	O	O	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N
6	Sta 483+00		No prediction	F		N	O	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N
	Bend of Island 25, Tenn., 803 MAHP					-6	-1	-2	-5	+1	+8	+4	+5	+2	+1	+5	+3	-4	-1	+1	+1	+1	+8	+4	+8	-6	-7
31	Sta 265+00 to 286+00	12-6	Stable			N	N	O	N	O	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N
31	Sta 295+00		Unstable			N	N	N	N	N	N	O	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N
31	Sta 306+00		Stable			N	N	N	N	N	N	O	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N
31	Sta 316+00		Unstable			N	N	N	N	N	O	O	O	N	N	N	N	N	N	N	N	N	N	N	N	N	N
31	Sta 326+00 to 330+00		Unstable			N	N	O	N	N	N	O	O	N	N	N	N	N	N	N	N	N	N	N	N	N	N
31	Sta 335+00		Stable			N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N
	Island 26, Tenn., 799 MAHP					-6	-1	-2	-5	+1	+8	+4	+5	+1	+1	+6	+3	-4	-1	+1	+1	+1	+8	+4	+8	-6	-7
32	Sta 61+50	12-6	Stable			-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
32	Sta 72+00		Unstable			-	-	-	-	-	R	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N
32	Sta 80+50 and 90+50		Stable			-	-	-	-	-	R	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N
32	Sta 101+00		Stable			-	-	-	-	R	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N
32	Sta 111+50 and 121+50		Unstable			-	-	-	-	R	N	N	F	N	N	N	N	N	N	N	N	N	N	N	N	N	N
32	Sta 132+00		Stable			-	-	-	-	R	N	N	N	N	N	N	O	N	N	N	N	N	N	N	N	N	N

(Continued)

Table 6 (Continued)

Revetment Site No.	Location	Potamology Report in Which Borings Are Evaluated	Predicted Performance with Regard to Flow Failure	Estimated Maximum River Stage Referenced to Bank-Full Conditions (ft) Observed Performance (Letter Symbols) 54	55	56	57	58	59	60	61	62	63	64	65	66	67	68	69	70	71	72	73	74	75	76	77
				MEMPHIS DISTRICT (Continued)																							
	Island 26, Tenn., 799 MAHP (Continued)																										
32	Sta 142+00		Unstable			-	-	-	-	R	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N
32	Sta 152+00		Stable			-	R	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N
32	Sta 161+50		Unstable			-	R	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N
32	Sta 172+00 to 212+00		Stable			-	R	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N
32	Sta 222+00		Unstable			-	R	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N
	Keyes Point, Tenn., 792 MAHP					-6	-1	-2	-5	+1	+8	+4	+5	+1	+1	+6	+3	-4	-1	+1	+1	+1	+8	+4	+8	-6	-7
145	Sta 20+50	12-14	Stable										-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
145	Sta 30+57 and 40+40		Stable										R	N	N	N	N	N	N	N	N	N	N	N	N	N	N
83	Sta 50+00 to 60+00	12-9	Stable						-	-	-	-	R	N	N	O	N	N	N	N	N	N	N	N	N	N	N
83	Sta 70+00		No prediction						-	-	-	-	R	N	N	N	N	N	N	N	N	N	N	N	N	N	N
83	Sta 80+00 to 90+00		Stable						-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
33	Sta 110+00 to 119+50	12-5	Unstable			-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
33	Sta 130+50		Stable			-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
33	Sta 140+00 to 159+00		Stable			N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N
33	Sta 168+00		No prediction			N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N
33	Sta 177+50		Stable			N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N
33	Sta 188+00		No prediction			N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N
33	Sta 200+00		Stable			N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N
238	Sta 199+00	12-21	Unstable																-	-	-	-	-	-	-	-	-
238	Sta 209+50		Stable																-	-	-	-	-	-	-	-	-
238	Sta 219+00 and 229+00		Unstable																-	-	-	-	-	-	-	-	-
177	Sta 491+00 to 1+00U	12-18	Unstable													N	N	N	N	N	N	N	N	N	N	N	N
177	Sta 11+00U		Stable													N	N	N	N	N	N	N	N	N	N	N	N
	Kate Aubrey, Ark., 792 MAHP																			+1	+1	+1	+8	+4	+8	-6	-7
319	Sta 368+00 to 424+00	12-22	Stable																	-	-	R	N	N	N	N	N
319	Sta 434+00		Unstable																	-	-	R	N	N	N	N	N
319	Sta 466+00 and 478+00	12-23	Unstable																			-	R	N	F	N	N
319	Sta 508+00 to 537+00	12-24	Unstable																						-	-	-
	Island 30, Tenn., 786 MAHP									+1	+8	+4	+5	+1	+1	+6	+3	-5	-1	+1	+1	+1	+8	+4	+8	-6	-7
101	Sta 108+00	12-10	Stable							N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N
101	Sta 118+00		Unstable							N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N
101	Sta 128+00		Stable							N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N
101	Sta 138+00		Unstable							N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N
101	Sta 148+00 to 178+00		Stable							N	N	N	N	N	N	O	N	N	N	N	N	N	N	N	N	N	N
101	Sta 196+00		Unstable							N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N
101	Sta 208+00 to 218+00		Unstable							R	N	N	N	N	N	N	O	N	N	N	N	N	N	N	N	N	N

(Continued)

Table 6 (Continued)

No.	Revetment Site Location	Potamology Report in Which Borings Are Evaluated	Predicted Performance with Regard to Flow Failure	Estimated Maximum River Stage Referenced to Bank-Full Conditions (ft) Observed Performance (Letter Symbols)																						
				54	55	56	57	58	59	60	61	62	63	64	65	66	67	68	69	70	71	72	73	74	75	76	77
	MEMPHIS DISTRICT (Continued)																									
	Lower Bullerton, Ark., 782 MAHP							-2	-5	+1	+8	+4	+5	+1	+1	+6	+3	-5	-1	+1	+1	+1	+8	+4	+8	-6	-7
66	Sta 368+00 to 388+00	12-8	Stable					R	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N
66	Sta 398+00		Stable					-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
66	Sta 408+00 and 418+00		Stable					N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N
66	Sta 427+75		Unstable					N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N
66	Sta 438+75		Stable					N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N
66	Sta 449+00 and 457+50		Unstable					-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	Sunrise Towhead, Tenn., 777 MAHP																					+1	+8	+4	+8	-6	-7
329	Sta 40+00	12-23	Stable																			-	R	N	N	N	N
	Lookout, Tenn., 773 MAHP							-2	-5	-1	+8	+4	+5	+1	+1	+6	+4	-5	-1	+1	+1	+1	+8	+4	+8	-6	-7
67	Sta 226+00 and 236+00	12-8	Unstable					N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N
67	Sta 246+25 to 266+00		Stable					N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N
67	Sta 276+00		Stable					-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	Chute of Island 35, Tenn., 765 MAHP								-5	+1	+8	+3	+4	+1	+1	+6	+4	-5	-2	0	0	0	+7	+3	+7	-7	-8
102	Sta 40+00U	12-10	Stable							-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
102	Sta 30+00U to 10+50U		Stable							N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	O	N	N
84	Sta 0+00	12-9	Unstable						-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
84	Sta 10+00L to 40+00L		Stable						-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	Cedar Point, Tenn., 759 MAHP					-5	-1	-2	-5	+1	+8	+3	+4	+1	+1	+6	+4	-5	-2	0	0	0	+7	+3	+7	-7	-8
34	Sta 112+00 and 122+00	12-6	Stable			N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N
34	Sta 131+50		Unstable			N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N
34	Sta 142+00		Stable			N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N
34	Sta 152+00		Unstable			N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N
34	Sta 162+00 and 172+00		Stable			N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N
34	Sta 182+00		Unstable			N	N	N	F	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N
	Dean Island, Ark., 756 MAHP					-5	-1	-2	-5	+1	+8	+3	+4	+1	+1	+6	+4	-5	-2	0	0	0	+7	+3	+7	-7	-8
135	Sta 76+00	12-13	Stable										-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
135	Sta 86+00		Unstable										-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
135	Sta 97+00		Stable										-	-	-	R	N	N	N	N	N	N	N	N	N	N	N
35	Sta 105+00	12-6	Unstable	-	-	-	-	-	-	-	-	-	-	-	-	R	N	N	N	N	N	N	N	N	N	N	N
35	Sta 115+00		Stable	-	-	-	-	-	-	-	-	-	-	-	-	R	N	N	N	N	N	N	N	N	N	N	N
35	Sta 125+00		Unstable	-	-	-	-	-	-	-	-	-	-	-	-	R	N	N	N	N	N	N	N	N	N	N	N
35	Sta 135+00		No prediction	-	-	-	-	-	-	-	-	-	-	-	-	R	N	N	N	N	N	N	N	N	N	N	N
35	Sta 144+00 to 164+00		Unstable	-	-	-	-	-	-	-	-	-	-	-	-	-	R	F	N	N	N	N	N	N	N	N	N

(Continued)

Table 6 (Continued)

No.	Revetment Site Location	Potamology Report in Which Borings Are Evaluated	Predicted Performance with Regard to Flow Failure	Estimated Maximum River Stage Referenced to Bank-Full Conditions (ft) Observed Performance (Letter Symbols)																				
				54	55	56	57	58	59	60	61	62	63	64	65	66	67	68	69	70	71	72	73	74	75	76	77
	MEMPHIS DISTRICT (Continued)																									
	Dean Island, Ark., 756 MAHP (Continued)																									
35	Sta 174+00		Unstable			-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
35	Sta 184+00		Stable			-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	Shelby Forest, Tenn., 752 MAHP																			0	0	0	+7	+3	+7	-7	-8
317	Sta 100+00	12-22	Stable																	-	-	-	-	-	-	-	-
317	Sta 108+00		No prediction																	-	-	-	-	-	-	-	-
317	Sta 118+00 to 138+00		Unstable																	R	N	N	N	N	N	N	N
317	Sta 144+00		Stable																	R	N	N	N	N	N	N	N
317	Sta 156+00		Unstable																	R	N	N	N	N	N	N	N
317	Sta 166+00 to 214+00		Stable																	R	N	N	N	N	N	N	N
	Brandywine, Ark., 751 MAHP						-1	-3	-5	+1	+8	+3	+4	0	0	+6	+4	-5	-2	0	0	0	+7	+3	+7	-7	-8
52	Sta 63+00	12-7	Stable				N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N
52	Sta 84+00		Unstable				N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N
52	Sta 104+00 to 186+00		Stable				N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N
	Randolph Point, Tenn., 748 MAHP																		-2	0	0	0	+7	+3	+7	-7	-8
239	Sta 91+00	12-21	Stable																-	-	-	-	-	-	-	-	-
239	Sta 101+00		No prediction																-	-	-	-	-	-	-	-	-
239	Sta 112+00		Stable																-	-	-	-	-	-	-	-	-
239	Sta 122+00		Unstable																-	-	-	-	-	-	-	-	-
	Island 40, Tenn., 742 MAHP									+1	+8	+3	+4	0	0	+7	+4	-6	-2	-1	-1	-1	+6	+2	+6	-8	-9
123	Sta 96+00	12-12	Unstable									-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
123	Sta 106+50 to 126+25		Stable									-	-	-	-	-	-	R	N	N	N	N	N	N	N	N	N
123	Sta 136+00		Unstable									-	-	-	-	-	-	R	N	N	N	N	N	N	N	N	N
123	Sta 146+00 and 156+00		Unstable									R	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N
123	Sta 166+00 and 186+00		Unstable								R	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N
103	Sta 215+00	12-10	No prediction							R	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N
103	Sta 224+00 to 234+00		Stable							R	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N
	Loosahatchie, Tenn., 738 MAHP										+7	+3	+4	0	0	+7	+4	-6	-2	-1	-1	-1	+6	+2	+6	-8	-9
114	Sta 97+00	12-11	Unstable								-	-	-	-	-	-	R	N	N	N	N	N	N	N	N	N	N
114	Sta 107+70		Unstable								-	R	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N
114	Sta 118+00		Stable								R	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N
114	Sta 128+00 to 148+00		Unstable								N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N
114	Sta 158+00 and 168+00		Stable								N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N
124	Sta 177+00 and 187+00	12-12	Stable									-	-	-	R	N	N	N	N	N	N	N	N	N	N	N	N
124	Sta 196+00		Unstable									-	-	-	R	N	N	N	N	N	N	N	N	N	N	N	N

(Continued)

Table 6 (Continued)

Revetment Site No.	Revetment Site Location	Potamology Report in Which Borings Are Evaluated	Predicted Performance with Regard to Flow Failure	Estimated Maximum River Stage Referenced to Bank-Full Conditions (ft) Observed Performance (Letter Symbols) 54	55	56	57	58	59	60	61	62	63	64	65	66	67	68	69	70	71	72	73	74	75	76	77
			MEMPHIS DISTRICT (Continued)																								
	Loosahatchie, Tenn., 738 MAHP (Continued)																										
124	Sta 207+00		Stable									-	-	-	R	N	N	N	N	N	N	N	N	N	N	N	N
178	Sta 218+00 to 253+00	12-18	Stable													R	N	N	N	N	N	N	N	N	N	N	N
178	Sta 253+00 and 258+00		No prediction													R	N	N	N	N	N	N	N	N	N	N	N
178	Sta 265+00		Stable													R	N	N	N	N	N	N	N	N	N	N	N
178	Sta 271+00 and 279+00		No prediction													R	N	N	N	N	N	N	N	N	N	N	N
178	Sta 284+00		Stable													R	N	N	N	N	N	N	N	N	N	N	N
178	Sta 289+00 and 299+00		No prediction													R	N	N	N	N	N	N	N	N	N	N	N
178	Sta 307+00		Stable													R	N	N	N	N	N	N	N	N	N	N	N
178	Sta 310+00 and 320+00		No prediction													R	N	N	N	N	N	N	N	N	N	N	N
178	Sta 332+00		Stable													R	N	N	N	N	N	N	N	N	N	N	N
	Hopefield Point, Ark., 737 MAHP									0	+7	+3	+4	0	0	+7	+4	-6	-2	-1	-1	-1	+6	+2	+6	-8	-9
104	Sta 129+00	12-10	No prediction							-	-	-	-	-	-	-	~	-	-	-	-	-	-	-	-	-	~
104	Sta 134+00		No prediction							N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N
136	Sta 160+00	12-13	Stable									R	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N
136	Sta 170+00		Unstable									R	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N
136	Sta 180+00		Stable									R	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N
136	Sta 190+00		Stable									-	-	-	-	-	~	-	-	-	-	-	-	-	-	-	~
	Bauxippi-Wyanoke, Ark., 729 MAHP			+3	-4	-2	-3	-5	0	+7	+3	+4	0	0	+7	+4	-6	-2	-1	-1	-1	+6	+2	+6	-8	-9	
17	Sta 80+00 to 84+00	12-4	Stable	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N
17	Sta 217+00 to 234+50		Stable	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N
	Ensley, Tenn., 723 MAHP			+3	-4	-2	-3	-5	0	+7	+3	+4	0	0	+6	+4	-6	-2	-1	-1	-1	+6	+2	+6	-8	-9	
18	Sta 248+00 to 269+00	12-4	Unstable	N	F	F	F	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N
18	Sta 278+00		Stable	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N
85	Sta 288+00 and 298+00	12-9	Unstable					-	R	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N
85	Sta 308+00 and 318+00		Unstable					-	-	-	-	R	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N
146	Sta 327+00	12-14	Stable									R	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N
146	Sta 337+00		Stable									-	-	R	N	N	N	N	N	N	N	N	N	N	N	N	N
146	Sta 348+00 and 359+50		Unstable									-	-	R	R	N	N	N	N	N	N	N	N	N	N	N	N
146	Sta 369+50		No prediction									-	-	-	-	-	R	N	N	N	N	N	N	N	N	N	N
146	Sta 378+00		Unstable									-	-	-	-	-	R	N	N	N	N	N	N	N	N	N	N
215	Sta 377+00 to 397+00	12-21	Stable														-	-	-	-	-	-	-	-	-	-	-
	Coahoma, Tenn., 717 MAHP			+2	-4	-2	-3	-5	0	+7	+3	+3	0	0	+6	+4	-6	-2	-1	-1	-1	+6	+2	+6	-8	-9	
19	Sta 122+00 to 193+00	12-4	Stable	N	O	O	O	O	N	O	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N

(Continued)

Table 6 (Continued)

Revetment Site No.	Revetment Site Location	Potamology Report in Which Borings Are Evaluated	Predicted Performance with Regard to Flow Failure	Estimated Maximum River Stage Referenced to Bank-Full Conditions (ft) Observed Performance (Letter Symbols) 54	55	56	57	58	59	60	61	62	63	64	65	66	67	68	69	70	71	72	73	74	75	76	77
				MEMPHIS DISTRICT (Continued)																							
	Norfolk Star, Miss., 708 MAHP												+3	0	0	+6	+4	-5	-2	0	0	-1	+7	+2	+6	-8	-9
137	Sta 168+00	12-13	Stable										N	N	N	N	N	N	N	N	N	N	N	N	N	N	N
137	Sta 178+00		Stable										-	-	R	N	N	N	N	N	N	N	N	N	N	N	N
137	Sta 188+00 and 198+00		Unstable										-	-	R	N	N	N	N	N	N	N	N	N	N	N	N
	Pickett, Miss., 702 MAHP						-2	-3	-5	0	+6	+3	+3	-1	0	+6	+4	-5	-2	0	0	-1	+7	+2	+6	-8	-9
57	Sta 117+50	12-7	Unstable				-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
53	Sta 127+00		Stable				-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
53	Sta 139+50 to 175+75		Stable				N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N
53	Sta 185+00 to 194+50		Unstable				F	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N
190	Sta 225+00	12-19	Unstable														R	N	N	N	N	N	N	N	N	N	N
190	Sta 235+00		Unstable														R	N	N	N	N	N	N	N	N	N	N
190	Sta 245+00		No prediction														R	N	N	N	N	N	N	N	N	N	N
190	Sta 255+00		Unstable														-	-	-	-	-	-	-	-	-	-	-
	Porter Lake, Ark., 701 MAHP				+1	-5	-2	-2	-5	0	+6	+3	+3	-1	0	+6	+4	-5	-2	0	0	-1	+7	+2	+6	-8	-9
20	Sta 281+50	12-4	Unstable		N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	O
20	Sta 291+50		Stable		N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N
20	Sta 299+00 to 311+50		Unstable		N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	O	N	N	N	N	N	N
	Commerce Landing, Miss., 695 MAHP					-5	-2	-2	-5	0	+6	+3	+3	-1	0	+6	+4	-5	-2	0	0	-1	+8	+3	+7	-8	-9
36	Sta 122+00 to 172+50	12-6	Stable			N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N
36	Sta 182+00		No prediction			N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N
36	Sta 192+00		Stable			N	N	N	N	N	N	N	O	N	N	N	N	N	N	N	N	N	N	N	N	N	N
	Peters, Ark., 691 MAHP				+1	-5	-2	-2	-5	0	+5	+3	+3	-1	0	+6	+4	-5	-2	0	0	-1	+8	+3	+7	-8	-9
169	Sta 30+00	12-17	Unstable												N	N	N	N	N	N	N	N	N	N	N	N	N
169	Sta 41+00		No prediction												N	N	N	N	N	N	N	N	N	N	N	N	N
7	Sta 187+00	12-3	No prediction	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	O	N	N
7	Sta 198+00 to 210+00		Stable	N	N	N	N	N	N	O	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N
7	Sta 220+00		No prediction	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N
7	Sta 230+00		Stable	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N
7	Sta 240+00 to 250+00		No prediction	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N
7	Sta 260+00		Stable	N	N	N	N	N	N	N	N	N	O	N	N	N	N	N	N	N	N	N	N	N	N	N	N
7	Sta 270+00		No prediction	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N
	Harbert Point, Miss., 675 MAHP				+2	-4	-2	-2	-5	0	+5	+4	+2	-1	0	+6	+4	-5	-2	0	0	-1	+8	+3	+7	-8	-9
21	Sta 56+75	12-24	Stable																				-	-	-	-
21	Sta 68+00 to 80+00		Unstable																				-	-	-	-
21	Sta 93+00		Unstable																				R	N	N	N
21	Sta 100+50		Stable																				R	N	N	N

(Continued)

Table 6 (Continued)

Revetment Site No.	Revetment Site Location	Potamology Report in Which Borings Are Evaluated	Predicted Performance with Regard to Flow Failure	Estimated Maximum River Stage Referenced to Bank-Full Conditions (ft) Observed Performance (Letter Symbols)																						
				54	55	56	57	58	59	60	61	62	63	64	65	66	67	68	69	70	71	72	73	74	75	76	77
				MEMPHIS DISTRICT (Continued)																						
	Harbert Point, Miss., 675 MAHP (Continued)																									
21	Sta 101+75	12-4	No prediction		-	-	-	-	-	-	-	-	R	N	N	N	N	N	N	N	N	N	N	N	N	N
21	Sta 112+00 to 121+75		Stable		N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	O	N	N	N	N
21	Sta 133+25 and 143+00		Unstable		N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N
21	Sta 153+00 to 174+50		Stable		N	N	O	N	O	N	N	N	O	N	N	N	N	N	N	N	N	N	N	(F)	N	N	N
21	Sta 184+00		No prediction		N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N
	St. Francis, Ark., 671 MAHP					-4	-2	-2	-5	0	+4	+4	+2	-1	0	+6	+4	-5	-2	0	0	-1	+8	+3	+7	-8	-9
125	Sta 311+00 and 323+00	12-12	Unstable									-	-	-	-	-	-	-	-	-	-	-	-	-	-	R	N
125	Sta 330+00 to 350+00		Stable									-	-	-	-	-	-	-	-	-	-	-	-	-	-	R	N
179	Sta 359+00	12-18	No prediction													N	N	N	N	N	N	N	N	N	N	N	N
179	Sta 370+00 and 380+00		Stable													N	N	N	N	N	N	N	N	N	N	N	N
179	Sta 400+00		No prediction													N	N	N	N	N	N	N	N	N	N	N	N
179	Sta 410+00		Stable													N	N	N	N	N	N	N	N	N	N	N	N
179	Sta 420+00		Unstable													N	N	N	N	N	N	N	N	N	N	N	N
54	Sta 430+00	12-7	Stable				N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N
54	Sta 440+00		Unstable				N	N	N	N	N	N	N	R	N	N	N	N	N	N	N	N	N	N	N	F	N
54	Sta 450+00 and 460+00		Stable				N	N	N	N	N	N	N	R	N	N	N	N	N	N	N	N	N	N	N	N	N
37	Sta 470+50 to 490+00	12-6	Stable			N	N	N	N	N	N	N	N	N	N	N	N	N	N	O	N	N	N	O	N	N	N
37	Sta 494+50 to 508+50		No prediction			N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	O	N	N	N
37	Sta 520+00 to 529+00		Stable			N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N
68	Sta 539+00	12-8	Stable					N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N
68	Sta 549+00		Unstable					N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N
68	Sta 559+00		Stable					-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
86	Sta 570+00 and 580+00	12-9	No prediction						-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	Helena Delta, Ark., 660 MAHP				+2	-3	-2	-2	-5	0	+4	+3	+1	-2	0	+5	+3	-5	-2	0	0	-1	+8	+3	+7	-8	-9
22	Sta 350+00 and 360+00	12-4	No prediction		N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N
22	Sta 369+50		Unstable		N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N
22	Sta 380+00		No prediction		N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N
87	Sta 390+00	12-9	Stable						-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
87	Sta 400+00		No prediction						-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
87	Sta 410+00		Stable						-	R	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N
115	Sta 420+00 to 440+00	12-11	Stable								N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N
115	Sta 450+00		Stable								-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	Old Town Bend, Ark., 643 MAHP							-2	-6	-2	+3	+2	0	-3	-1	+1	0	-6	-3	-1	-1	-1	+8	+3	+7	-8	-9
69	Sta 272+25 to 293+75	12-8	Stable					-	R	N	N	N	N	O	N	N	N	N	O	N	N	N	N	N	N	N	N
88	Sta 304+50 and 314+50	12-9	Stable						-	R	N	N	N	N	O	N	N	N	N	N	N	N	O	N	N	N	N
88	Sta 324+50		Stable						-	-	-	R	N	N	O	N	N	N	N	N	N	N	N	N	O	N	N

(Continued)

Table 6 (Continued)

Revetment Site No.	Revetment Site Location	Potamology Report in Which Borings Are Evaluated	Predicted Performance with Regard to Flow Failure	Estimated Maximum River Stage Referenced to Bank-Full Conditions (ft) Observed Performance (Letter Symbols)																					
				54	55	56	57	58	59	60	61	62	63	64	65	66	67	68	69	70	71	72	73	74	75	76	77
				MEMPHIS DISTRICT (Continued)																					
	Island 63 Bar, Miss., 639 MAHP													-3	-1	0	-1	-6	-3	-1	-1	-1	+8	+3	+7	-8	-9
170	Sta 134+00 to 154+00	12-17	Unstable											R	N	N	N	F	N	N	N	F	N	F	N	N	N
170	Sta 164+00		Stable											R	N	N	N	N	N	N	N	N	O	N	N	N	N
170	Sta 174+00 to 184+00		Unstable											R	N	N	N	N	N	N	N	N	O	N	N	N	N
170	Sta 135+00 to 165+00	12-23	Unstable																			F	R	N	F	N	F
170	Sta 173+37 and 184+00		Stable																			-	R	N	N	N	N
170	Sta 195+00 to 220+00		Unstable																			-	-	-	-	-	-
	Island 62, Ark., 639 MAHP						-2	-2	-7	-2	+3	+2	-1	-3	-2	0	-1	-6	-3	-1	-1	-1	+8	+3	+7	-8	-9
55	Sta 73+75	12-7	Unstable				N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N
55	Sta 93+50		Stable				N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N
55	Sta 104+00		No prediction				N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N
55	Sta 114+50 to 134+25		Stable				N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N
116	Sta 160+00	12-11	Stable								N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N
116	Sta 170+00		Unstable								-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
116	Sta 180+00 and 190+00		Stable								-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	Fair Landing, Ark., 633 MAHP							-2	-7	-3	+2	+1	-1	-3	-1	-1	-2	-7	-4	-2	-2	-2	+7	+2	+6	-9	-10
70	Sta 264+00	12-8	Stable					N	N	N	N	N	N	N	(F)	N	N	N	N	N	N	N	N	N	N	N	N
70	Sta 274+50		Unstable					N	N	N	N	N	N	N	F	N	N	N	N	N	N	N	N	N	N	N	N
70	Sta 283+50		Stable					N	N	N	N	N	N	N	O	N	N	N	N	N	N	N	N	N	N	N	N
70	Sta 294+00		Stable					N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N
	Rescue Landing, Miss., 628 MAHP				-5	-10	-2	-2	-8	-3	+2	+1	-1	-4	-3	-2	-3	-7	-4	-2	-2	-2	+7	+2	+6	-9	-10
8	Sta 70+50 to 180+00	12-3	Stable		N	N	N	O	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N
8	Sta 202+00 to 215+00		Unstable		F	N	N	N	N	N	N	N	N	O	N	N	N	N	N	N	N	N	N	N	N	N	N
	Ludlow, Ark., 625 MAHP					-10	-2	-3	-8	-4	+3	0	-2	-4	-3	-3	-4	-7	-4	-2	-2	-2	+7	+2	+6	-9	-10
38	Sta 27+00	12-6	Stable			N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N
38	Sta 39+00		Stable			N	N	N	N	N	N	N	N	N	(F)	N	N	N	N	N	N	N	N	N	N	N	N
38	Sta 47+00		Stable			N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N
38	Sta 58+00		Stable			N	N	N	N	N	N	N	N	O	N	N	(F)	N	N	N	N	N	N	N	N	N	N
38	Sta 68+00		Stable			N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N
38	Sta 76+00		Stable			N	O	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N
38	Sta 86+00 and 96+00		Stable			N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	O	N	N	N
	Sunflower-Island No. 68, Ark., 621 MAHP																				-2	-2	+7	+2	+6	-10	-11
320	Sta 220+00 to 250+00	12-22	Stable																		-	-	-	-	-	-	-
320	Sta 260+00		Unstable																		R	N	N	N	N	N	N
320	Sta 270+00 to 280+00		Stable																		R	N	N	N	N	N	N

(Continued)

Table 6 (Continued)

Revetment Site No.	Location	Potamology Report in Which Borings Are Evaluated	Predicted Performance with Regard to Flow Failure	Estimated Maximum River Stage Referenced to Bank-Full Conditions (ft) Observed Performance (Letter Symbols) 54	55	56	57	58	59	60	61	62	63	64	65	66	67	68	69	70	71	72	73	74	75	76	77
												MEMPHIS DISTRICT (Concluded)																
	Henrico, Ark., 606 MAHP												-3	-6	-4	-7	-8	-8	-5	-3	-3	-3	+7	+2	+6	-10	-11
138	Sta 66+00 to 69+00	12-13	Unstable										N	N	N	N	N	F	O	N	N	N	N	N	N	N	N
138	Sta 76+00		Stable										R	N	N	N	N	N	N	N	N	N	N	N	N	N	N
138	Sta 86+00		No prediction										-	-	-	-	R	N	N	N	N	N	N	N	N	N	N
138	Sta 96+00		Stable										-	-	-	-	-	R	N	N	N	N	N	N	N	N	N
138	Sta 106+00 and 116+00		No prediction										-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
												VICKSBURG DISTRICT															
	Dennis, Miss., 612 MAHP													-5	-3	-6	-6	-8	-5	-3	-6	-6	+7	0	+4	-11	-11
147	613.80 to 613.65 MAHP	12-24	Stable																								-
147	613.50 to 613.35 MAHP		Unstable																								-
147	613.15 MAHP		Stable																								-
147	613.20 to 612.80 MAHP	12-14	Stable											-	-	-	-	-	-	-	-	-	-	-	-	-	-
147	612.60 MAHP		Unstable											-	-	-	-	-	-	-	-	-	-	-	-	-	R
147	612.45 MAHP		Stable											-	-	-	-	-	-	-	-	-	-	-	-	-	R
191	610.10 MAHP		Unstable														R	N	N	N	N	N	N	N	N	N	O
191	609.90 MAHP		Stable														-	-	-	-	-	-	-	-	-	-	-
191	609.70 MAHP		Unstable														-	-	-	-	-	-	-	-	-	-	-
	Smith Point, Miss., 602 MAHP							-3	-11	-6	+1	+2	-4	-6	-5	-9	-8	-8	-5	-3	-6	-6	+7	-1	+4	-11	-11
321	Ranges 93U to 80U	12-23	Unstable																			-	-	-	-		
321	Range 74+90U	12-22	Unstable																	-	R	N	N	N	N	N	N
321	Range 66U		Unstable																	-	R	N	N	N	N	N	N
321	Range 58+30U		Unstable																	-	R	N	N	N	N	N	N
321	Range 49U		Stable																	-	R	N	N	N	N	N	O
321	Range 41U		Stable																	-	R	N	N	N	N	N	O
321	Range 32+100U		Unstable																	-	R	N	N	N	N	N	N
321	Range 25+80U		Unstable																	-	R	N	N	N	N	N	N
321	Range 20-20U		Unstable																	-	R	F	N	N	N	N	N
71	Range 16+20U	12-8	Stable				-	-	-	-	-	-	-	-	-	-	-	-	-	-	R	N	N	N	N	N	N
321	Range 13+50U	12-22	Unstable				R	N	N	N	N	N	N	N	N	N	N	N	N	N	F	F	N	N	N	N	N
71	Range 0+50D	12-8	Stable	R	N		N	O	N	N	N	N	N	N	N	N	N	N	N	O	O	O	N	N	N	N	N
71	Range 23+50D		Unstable	R	N		N	O	N	N	F	N	N	N	N	N	N	N	N	N	N	F	N	N	N	N	N
	Big Island, Ark., 598 MAHP					-10	-2	-3	-11	-6	0	-2	-5	-7	-6	-9	-9	-9	-6	-4	-7	-7	+7	-2	+4	-12	-12
72	600.1 and 599.9 MAHP	12-8	Unstable					-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
72	Range 51U		No prediction					N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N
40	Range 22U	12-6	No prediction			N	F	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N
40	Range 7U		Stable			O	O	O	N	N	N	O	O	N	N	N	N	N	N	N	N	N	N	N	N	N	N
40	Range 9D		Unstable			N	N	N	N	N	N	O	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N
139	Ranges 43D to 58D	12-13	Stable									R	N	N	N	N	N	N	N	N	N	N	N	O	N	N	N
139	Range 66D		Unstable									R	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N
139	Range 73D		Stable									-	R	N	N	N	N	N	N	N	N	N	N	N	N	N	N

(Continued)

Table 6 (Continued)

No.	Revetment Site Location	Potamology Report in Which Borings Are Evaluated	Predicted Performance with Regard to Flow Failure	Estimated Maximum River Stage Referenced to Bank-Full Conditions (ft) Observed Performance (Letter Symbols)																						
				54	55	56	57	58	59	60	61	62	63	64	65	66	67	68	69	70	71	72	73	74	75	76	77
				VICKSBURG DISTRICT (Continued)																						
	Big Island, Ark., 598 MAHP (Continued)																									
171	596.00 MAHP	12-17	Stable												-	-	-	-	-	-	-	-	-	-	-	-
171	595.8 and 595.60 MAHP		Unstable												-	-	-	-	-	-	-	-	-	-	-	-
171	595.30 MAHP		No prediction												-	-	-	-	-	-	-	-	-	-	-	-
	Victoria Bend, Miss., 595 MAHP					-9	-2	-4	-12	-7	0	-3	-5	-7	-6	-10	-10	-9	-6	-4	-7	-7	+7	-3	+4	-12	-12
89	596.2 MAHP	12-9	Unstable						-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
89	595.7 to 595.5 MAHP		Stable						-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
89	Range 31U		Unstable						N	N	N	N	N	N	R	N	N	N	N	N	N	N	N	N	N	N
41	Ranges 30U to 21D	12-6	Unstable			F	F	O	N	F	F	O	N	N	N	N	N	N	N	N	N	N	N	N	N	N
	Terrene, Miss., 591 MAHP							-4	-12	-7	0	-3	-5	-7	-5	-11	-11	-9	-6	-4	-7	-7	+7	-4	+4	-13	-13
126	Range 33D	12-12	Stable								-	R	N	N	N	N	N	N	N	N	N	N	N	N	N	N
148	Range 39D	12-14	Unstable											R	N	N	N	N	N	N	N	N	N	N	N	N
126	593.8 MAHP	12-12	Stable									-	-	R	N	N	N	N	N	N	N	N	N	N	N	N
148	Range 45D	12-14	Stable											R	N	N	N	N	N	N	N	N	N	N	N	N
148	Range 53D	12-14	Unstable											R	N	N	N	N	N	N	N	N	N	N	N	N
73	593.5 MAHP	12-8	Stable					-	-	-	-	-	-	R	N	N	N	N	N	N	N	N	N	N	N	N
148	Range 59D	12-14	Stable											R	N	N	N	N	N	N	N	N	N	N	N	N
126	593.20 MAHP	12-12	Stable								-	-	-	R	N	N	N	N	N	N	N	N	N	N	N	N
148	Range 66D	12-14	Unstable											R	N	N	N	N	N	N	N	N	O	N	N	N
148	593.00 MAHP	12-14	Stable											R	N	N	N	N	N	N	N	N	N	N	N	N
73	592.90 MAHP	12-8	Stable					-	-	-	-	-	-	R	N	N	N	N	N	N	N	N	N	N	N	N
148	592.8 MAHP	12-14	No prediction										R	N	N	N	N	N	N	N	N	N	N	N	N	N
73	Range 11D	12-8	Stable					-	-	R	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N
73	Range 23D	12-8	No prediction					-	-	R	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N
73	Range 49D	12-8	Unstable					-	-	R	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N
126	Range 61D	12-12	Stable								R	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N
	Klondike, Ark., 588 MAHP						-3	-5	-12	-7	0	-3	-6	-7	-6	-11	-11	-9	-6	-4	-7	-7	+7	-4	+4	-13	-13
56	Range 77+50U	12-7	Stable				-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
56	Range 70+100U	12-22	Unstable																		-	-	-	-	-	-	-
56	Ranges 64+30U to 57+100U		Unstable				-	-	-	-	-	-	-	-	-	-	-	-	-	-	R	N	N	N	N	N	N
56	Ranges 56U to 29D	12-7	Stable			R	N	O	O	O	N	N	N	N	N	O	O	N	N	N	O	N	N	N	N	N	O
56	Range 49D		Unstable				-	-	R	N	N	F	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N
90	Range 70D	12-9	Unstable						-	R	N	F	N	N	F	N	N	N	N	N	N	N	N	N	N	N	N
90	Range 85D		Unstable						-	R	N	O	N	N	F	N	N	N	N	N	N	N	N	N	N	N	N
149	Range 39D	12-14	No prediction										N	N	O	N	N	N	N	N	N	N	N	N	N	N	N
90	Range 100D	12-9	Stable						-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
149	585.65 MAHP	12-14	Unstable										-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

(Continued)

Table 6 (Continued)

No.	Revetment Site Location	Potamology Report in Which Borings Are Evaluated	Predicted Performance with Regard to Flow Failure	Estimated Maximum River Stage Referenced to Bank-Full Conditions (ft) Observed Performance (Letter Symbols) 54	55	56	57	58	59	60	61	62	63	64	65	66	67	68	69	70	71	72	73	74	75	76	77
	VICKSBURG DISTRICT (Continued)																										
	Rosedale Bend, Ark., 585 MAHP																			-4	-7	-7	+7	-4	+4	-13	-13
322	Range 1U	12-22	Stable																	-	-	-	-	-	-	-	-
322	Range 5D		Stable																	-	-	-	-	-	-	-	-
322	Range 12D		Stable																	-	-	-	-	-	-	-	-
322	Range 19D		Stable																	R	N	N	N	N	N	N	N
322	Range 25D		Unstable																	R	N	N	N	N	N	N	N
322	Range 31+50D		No prediction																	R	F	N	N	N	N	N	N
322	Range 38+40D		No prediction																	-	R	N	N	N	N	N	N
	Prentiss, Miss., 583 MAHP							-5	-13	-7	-1	-4	-6	-8	-6	-11	-11	-9	-6	-4	-7	-7	+6	-4	+3	-13	-13
150	584.50 to 584.20 MAHP	12-14	Unstable										-	-	R	N	N	N	N	F	N	N	N	N	N	N	N
150	584.05 MAHP		Unstable										R	N	N	N	N	N	N	N	N	N	F	N	N	N	N
74	Ranges 45U to 12U	12-8	Stable					-	-	R	N	N	O	N	N	N	O	N	N	N	N	N	N	N	N	N	N
74	Range 1D		Unstable					N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	F	N	N	N	N
74	Ranges 12D and 19D		Stable					N	N	N	N	N	O	N	N	N	N	N	N	N	N	N	N	N	N	N	N
	Ozark, Ark., 578 MAHP								-14	-8	-1	-4	-7	-9	-8	-12	-12	-9	-5	-3	-6	-6	+5	-5	+2	-13	-13
91	580.6 MAHP	12-9	Unstable						-	-	-	-	-	-	-	-	-										
91	579.8 MAHP		Unstable						-	R	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N
91	Ranges 16U and 3U		Stable						-	R	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N
91	Ranges 10D to 51D		Stable						N	N	O	N	N	N	N	N	N	N	N	N	N	N	N	N	(F)	N	N
91	Range 64D		No prediction						N	N	N	N	N	N	N	N	O	N	N	N	N	N	N	N	N	N	N
91	Range 78D		Stable						N	N	N	N	N	N	N	N	O	N	N	N	N	N	O	N	N	N	N
91	Range 92D		Unstable						R	N	N	N	N	N	N	N	N	F	N	N	F	N	N	N	N	N	N
151	Range 99D	12-14	Stable										R	N	N	N	N	N	N	N	N	N	N	N	N	N	N
151	Range 106D		No prediction						-	-	-	-	R	N	N	N	N	N	N	N	N	N	N	N	N	N	N
151	575.75 MAHP		Stable										R	N	N	N	N	N	N	N	N	N	N	N	N	N	N
151	575.50 MAHP		Unstable										-	-	-	-	-										
	Catfish Point, Miss., 574 MAHP				-7	-13	-4	-6	-14	-9	-1	-5	-7	-9	-8	-12	-12	-9	-5	-3	-6	-6	+5	-5	+2	-13	-13
152	575.85 to 575.20 MAHP	12-14	Stable											-	R	N	N	N	N	N	N	N	N	N	N	N	N
152	574.95 and 574.75 MAHP		Unstable											-	R	N	N	N	N	N	N	N	N	N	N	N	N
152	574.55 and 574.30 MAHP		Stable											-	R	N	N	N	N	N	N	N	N	N	N	N	N
24	Ranges 26U and 21U	12-4	Stable	N	N	N	N	N	N	O	N	N	N	N	N	N	(F)	N	O	N	N	N	N	N	N	N	N
24	Range 13U		Unstable	N	N	N	N	N	N	N	N	N	N	N	N	N	N	F	N	N	N	N	N	N	N	N	N
24	Range 5U		Stable	N	N	N	N	N	N	O	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N
24	Range 2D		Unstable	N	O	O	F	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	F	N	N	
24	Range 38D		Stable	N	N	N	O	N	N	N	O	N	N	O	N	N	N	N	N	N	N	N	N	N	N	N	
	Cypress Bend, Ark., 568 MAHP						-5	-7	-15	-10	-1	-5	-8	-10	-8	-13	-13	-9	-5	-3	-6	-7	+5	-5	+2	-14	-14
324	571.7 MAHP	12-22	Stable																		-	-	-	-	-	-	-
324	571.5 MAHP		Stable																		-	-	-	-	-	-	-

(Continued)

Table 6 (Continued)

Revetment Site No.	Location	Potamology Report in Which Borings Are Evaluated	Predicted Performance with Regard to Flow Failure	Estimated Maximum River Stage Referenced to Bank-Full Conditions (ft) Observed Performance (Letter Symbols) 54	55	56	57	58	59	60	61	62	63	64	65	66	67	68	69	70	71	72	73	74	75	76	77
				VICKSBURG DISTRICT (Continued)																							
	Cypress Bend, Ark., 568 MAHP (Continued)																										
324	571.3 MAHP		Stable																		-	-	-	-	-	-	-
324	571.1 MAHP		Stable																		-	-	-	-	-	-	-
324	570.9 MAHP		Stable																		-	-	-	-	-	-	-
192	570.80 MAHP	12-19	Unstable														-	-	-	-	-	-	-	-	-	-	-
192	570.70 MAHP		Unstable														R	N	N	N	N	N	N	N	N	N	N
192	570.50 MAHP		Stable														R	N	N	N	N	N	N	N	N	N	N
192	570.40 MAHP		Unstable														R	N	N	N	N	N	N	N	N	N	N
192	570.30 MAHP		Stable														R	N	N	N	N	N	N	N	N	N	N
192	570.10 MAHP		Stable														R	N	N	N	N	N	N	N	N	N	N
57	Range 49U	12-7	Stable	-	-	-	-	-	-	-	-	-	-	-	-	-	R	N	N	N	N	N	N	N	N	N	N
57	Range 35U		Unstable	N	N	N	N	N	N	N	N	N	N	N	N	N	N	F	N	N	N	N	N	N	N	N	N
57	Range 20U		Stable	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	O	N	N	N	N	N	N	N	N
57	Range 6U		Unstable	N	N	N	N	N	N	N	N	N	N	N	N	N	N	F	N	N	N	N	N	N	N	N	N
57	Ranges 8D and 23D		Stable	O	N	N	N	N	N	N	N	N	N	N	N	N	N	O	N	N	N	N	N	N	N	N	N
57	Range 35D		Unstable	N	N	N	N	N	O	N	N	N	N	N	N	N	N	F	N	N	N	N	N	F	N	N	N
57	Range 51D		Stable	N	O	N	N	N	N	N	N	N	N	N	N	N	N	O	N	N	N	N	N	N	N	N	N
140	Range 57D	12-13	Stable						R	N	N	N	N	N	N	N	N	O	N	N	N	N	N	N	N	N	N
140	Ranges 58D to 86D	12-13	Stable						R	N	N	N	N	N	N	N	N	O	N	N	N	N	O	N	N	N	N
172	566.50 to 566.00 MAHP	12-17	Stable											R	N	N	N	N	N	N	N	N	N	N	N	N	N
	Eutaw, Miss., 564 MAHP						-5	-8	-16	-10	-1	-6	-8	-10	-9	-13	-13	-9	-5	-3	-6	-8	+4	-6	+1	-14	-14
58	566.5 and 566.2 MAHP	12-7	Stable				-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
58	Range 33D		Unstable				-	-	R	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N
58	Ranges 44D to 68D		Stable				-	-	R	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N
58	Range 79D		Stable				-	-	-	-	-	-	-	-	-	R	N	N	N	N	N	N	N	N	N	N	N
	Mounds, Miss., 562 MAHP													-10	-8	-13	-13	-9	-5	-3	-6	-9	+4	-6	0	-15	-15
153	563.90 to 563.50 MAHP	12-14	Unstable											R	N	N	N	N	N	N	N	N	N	N	N	N	N
153	563.35 to 562.95 MAHP		Stable											R	N	N	N	N	N	N	N	N	N	N	N	N	N
153	562.70 to 562.10 MAHP		Stable											N	N	N	O	N	N	N	N	N	O	N	N	N	N
153	561.40 to 561.00 MAHP		Unstable											N	N	k	N	N	F	N	N	N	F	F	N	N	N
153	560.90 MAHP		Unstable											-	-	R	N	N	N	N	N	N	N	N	N	N	N
193	560.80 MAHP	12-19	Unstable														-	-	R	N	N	N	N	N	N	N	N
193	560.60 MAHP		Unstable														-	-	-	-	R	N	N	N	N	N	N
193	560.50 MAHP		Unstable														-	-	-	-	R	N	N	F	N	N	N
193	559.7 to 559.5 MAHP	12-23	Unstable																			R	N	F	N	N	F
193	559.35 to 558.10 MAHP	12-24	Stable																								
	Pair-O-Dice, Ark., 561 MAHP						-6	-9	-16	-11	-2	-6	-9	-10	-9	-13	-13	-9	-5	-3	-6	-10	+4	-6	-1	-16	-16
59	562.6 MAHP	12-7	No prediction				-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
59	Ranges 26U to 1U		Stable				N	N	N	N	N	O	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N
59	Range 13D		Unstable				N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N

(Continued)

Table 6 (Continued)

Revetment Site No.	Location	Potamology Report in Which Borings Are Evaluated	Predicted Performance with Regard to Flow Failure	Estimated Maximum River Stage Referenced to Bank-Full Conditions (ft) Observed Performance (Letter Symbols)																						
				54	55	56	57	58	59	60	61	62	63	64	65	66	67	68	69	70	71	72	73	74	75	76	77
				VICKSBURG DISTRICT (Continued)																						
	Pair-O-Dice, Ark., 561 MAHP (Continued)																									
59	Range 25+50D		Stable				N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N
59	559.40 MAHP		Unstable				-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	Huntington Point, Miss., 557 MAHP									-11	-2	-6	-9	-11	-9	-14	-14	-8	-5	-3	-6	-9	+5	-5	0	-15	-15
105	557.5 to 557.0 MAHP									-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	Yellow Bend, Ark., 552 MAHP										-1	-6	-9	-10	-9	-14	-13	-8	-4	-2	-6	-8	+6	-4	+1	-14	-14
117	Range 163D	12-11	Stable								R	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N
117	Range 170D		Unstable								R	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N
117	Range 176D		Stable								R	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N
154	551.20 MAHP	12-14	Stable										R	N	N	N	N	(F)	N	N	N	N	(F)	O	N	N	N
154	551.05 MAHP		Unstable										R	N	N	N	N	N	N	F	N	N	N	N	N	N	N
154	550.75 MAHP		Stable										R	N	N	N	N	N	N	N	N	N	N	N	N	N	N
154	550.55 MAHP		Unstable										R	N	N	N	N	N	N	N	N	N	N	N	N	N	N
154	550.35 to 550.15 MAHP		No prediction										R	N	N	N	N	N	N	N	N	N	N	N	N	N	N
154	549.95 MAHP		Stable										R	N	N	N	N	N	N	N	N	N	N	N	N	N	N
154	549.80 MAHP		Unstable										R	N	N	N	N	N	N	N	N	N	N	N	N	N	N
154	549.55 to 549.40 MAHP		Stable										-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
154	549.25 MAHP		Unstable										-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	Georgetown, Ark., 550 MAHP								-12	-11	-1	-6	-7	-9	-7	-13	-13	-8	-4	-2	-6	-7	+7	-3	+2	-13	-13
92	Range 188D to 240D	12-9	Stable						-	-	-	-	R	N	N	N	N	N	N	N	N	N	N	N	N	N	N
	Island 82, Ark., 546 MAHP														-9	-12	-12	-8	-4	-2	-6	-6	+8	-2	+3	-12	-12
180	546.35 to 545.55 MAHP	12-18	Stable												R	N	N	N	N	N	N	N	N	N	N	N	N
	Miller Bend, Miss., 544 MAHP												-6	-7	-7	-11	-11	-8	-4	-2	-6	-5	+9	-1	+4	-12	-12
127	Range 204D	12-12	Unstable									N	N	F	N	N	N	N	N	N	N	N	N	N	N	N	N
127	Range 213D		Unstable									N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N
155	541.50 to 541.30 MAHP	12-14	Unstable										-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
127	Range 223D	12-12	Stable									N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N
127	Range 233D		Stable									-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
155	541.15 to 540.80 MAHP	12-14	Unstable										-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
155	540.65 to 540.25 MAHP		Stable										-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
155	540.10 to 539.65		Unstable										-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	False Point, La., 541 MAHP																		-4	-2	-6	-4	+10	0	+5	-11	-11
240	Ranges 7D to 25D	12-21	Stable																-	-	-	-	-	-	-	-	-

(Continued)

Table 6 (Continued)

Revetment Site No.	Location	Potamology Report in Which Borings Are Evaluated	Predicted Performance with Regard to Flow Failure	Estimated Maximum River Stage Referenced to Bank-Full Conditions (ft) Observed Performance (Letter Symbols)																						
				54	55	56	57	58	59	60	61	62	63	64	65	66	67	68	69	70	71	72	73	74	75	76	77
				VICKSBURG DISTRICT (Continued)																						
	La Grange, Miss., 538 MAHP													-7	-7	-9	-9	-8	-4	-2	-6	-4	+10	+1	+6	-10	-10
156	539.35 to 539.20 MAHP	12-14	Unstable											-	-	-	-	-	-	-	-	-	-	-	-	-	-
156	539.00 to 538.85 MAHP		Stable											-	-	-	-	-	-	-	-	-	-	-	-	-	-
156	538.35 MAHP		Unstable										R	N	N	N	N	N	N	N	N	N	N	N	N	N	N
156	538.10 to 537.80 MAHP		Stable										R	N	O	N	N	N	N	N	N	N	N	N	N	N	N
156	537.60 to 537.45 MAHP		Stable											R	N	N	N	N	N	N	N	N	N	N	N	N	N
	Warfield Point, Miss., 537 MAHP																							+1	+6	-10	-10
347	Range 12D	12-24	No prediction																					N	N	N	N
347	Range 18D		Unstable																					F	N	N	N
347	Range 23D		Stable																					N	N	N	N
	Lakeport, Ark., 528 MAHP								-10	-11	+4	0	-3	-4	-3	-7	-8	-7	-4	-2	-6	-4	+10	+1	+6	-10	-10
157	530.50 MAHP	12-14	Stable											-	-	-	-	-	-	-	-	-	-	-	-	-	-
157	530.30 MAHP		No prediction											-	-	-	-	-	-	-	-	-	-	-	-	-	-
157	530.10 MAHP		Stable											-	-	-	-	-	-	-	-	-	-	-	-	-	-
157	529.90 MAHP		No prediction											-	-	-	-	-	-	-	-	-	-	-	-	-	-
157	529.70 and 529.50 MAHP		Stable											-	-	-	-	-	-	-	-	-	-	-	-	-	-
157	529.35 MAHP		Unstable											-	-	-	-	-	-	-	-	-	-	-	-	-	-
157	529.15 MAHP		Stable											-	-	-	-	-	-	-	-	-	-	-	-	-	-
93	Ranges 14D to 33D	12-9	Stable						N	N	O	O	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N
93	Range 56D		Unstable						N	N	N	F	N	N	N	N	N	N	N	N	N	N	O	N	N	N	N
93	Range 70D		No prediction						-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
106	Range 112D	12-10	Stable							-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
106	Range 121D		Unstable							N	N	N	N	N	N	N	N	N	N	N	N	N	O	N	N	N	N
106	Range 131D		Stable							N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N
106	Range 140D		Unstable							N	N	N	N	N	N	N	N	N	N	N	N	N	O	N	N	N	N
106	Range 151D	12-10	Stable							R	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N
	Walnut Point, Miss., 522 MAHP						-1	-4	-10	-5	+4	0	-3	-4	-3	-7	-8	-7	-3	-1	-5	-3	+10	0	+6	-10	-10
60	523.90 MAHP	12-7	Stable				-	-	-	-	-	-	-	-	-	-	R	N	N	N	N	N	N	N	N	N	N
60	523.70 MAHP		Unstable				-	-	-	-	-	-	-	-	-	-	R	N	N	N	N	N	N	N	N	N	N
60	Range 26U		Stable				N	N	N	N	N	N	N	N	N	N	N	O	N	N	N	N	N	N	N	N	N
60	Range 12U		Unstable				N	N	N	N	N	N	N	N	N	N	N	N	N	F	N	N	N	N	N	N	N
60	Ranges 2D and 16D		Stable				N	N	N	N	N	O	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N
60	Range 30D		Unstable				N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N
60	Ranges 39D and 53D		Stable				N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	O	N	N	N	N	N
158	Ranges 58D and 65D	12-14	Stable										R	N	N	N	N	N	N	N	N	N	N	N	N	N	N
60	Range 67D	12-7	Stable				-	-	-	-	-	-	R	N	N	N	N	N	N	N	N	N	N	N	N	N	N
158	Range 71D	12-14	Stable										R	N	N	N	N	N	N	N	N	N	N	N	N	N	N
158	520.3 MAHP		No prediction											R	N	N	N	N	N	N	N	N	N	N	N	N	N
60	520.2 MAHP	12-7	Stable				-	-	-	-	-	-	-	R	N	N	N	N	N	N	N	N	N	N	N	N	N

(Continued)

Table 6 (Continued)

No.	Revetment Site Location	Potamology Report in Which Borings Are Evaluated	Predicted Performance with Regard to Flow Failure	Estimated Maximum River Stage Referenced to Bank-Full Conditions (ft) Observed Performance (Letter Symbols)																						
				54	55	56	57	58	59	60	61	62	63	64	65	66	67	68	69	70	71	72	73	74	75	76	77
				VICKSBURG DISTRICT (Continued)																						
	Walnut Point, Miss., 522 MAHP (Continued)																									
158	520.1 MAHP	12-14	Unstable											R	N	N	N	N	N	N	N	N	N	N	N	N
158	519.7 MAHP		Stable											R	N	N	N	N	N	N	N	N	N	N	N	N
158	519.5 MAHP	12-14	Unstable											R	N	N	N	N	N	N	N	N	N	N	N	N
	Kentucky Bend, Miss., 519 MAHP												-3	-4	-3	-7	-8	-7	-3	-1	-5	-3	+10	-1	+6	-10	-10
141	520.1 to 519.7 MAHP	12-13	Stable									-	-	R	N	N	N	N	N	N	N	N	N	N	N	N
141	Range 54D		Stable									N	N	N	N	N	N	N	(F)	O	N	N	N	N	N	N
141	Range 61D		Unstable									N	N	N	N	N	N	N	N	F	N	N	N	N	N	N
141	Ranges 65D and 72D		Stable									N	N	N	O	(F)	N	N	N	N	O	N	N	N	N	N
141	Range 79D		Unstable									N	N	N	F	N	N	N	N	F	O	N	N	N	N	N
141	Range 87D		Stable									N	N	N	O	N	N	N	N	N	O	N	N	N	N	N
141	Range 93D		Unstable									N	N	N	N	N	N	N	N	N	O	N	N	N	N	N
141	Ranges 96D to 97D		Unstable									N	N	N	N	N	N	N	N	N	F	N	N	N	N	N
141	Ranges 98D to 100D		Unstable									N	N	N	N	N	N	N	N	N	O	N	O	N	N	N
	Island No. 88 (Worthington), Miss., 514 MAHP																-8	-7	-3	-1	-5	-3	+10	-2	+6	-10	-10
194	514.6 MAHP	12-19	Unstable														-	-	-	-	-	-	-	-	-	-	-
194	514.5 MAHP		Stable														-	-	-	-	-	-	-	-	-	-	-
194	514.3 MAHP		Unstable														R	N	N	N	N	N	N	N	N	N	N
194	514.2 MAHP		Stable														R	N	N	N	N	N	N	N	N	N	N
194	514.1 MAHP		Stable														R	O	N	N	N	N	N	N	N	N	N
194	513.9 MAHP		Stable														RO	O	N	N	N	N	N	N	N	N	N
194	513.7 MAHP		Stable														RO	N	N	N	N	N	N	N	N	N	N
194	513.6 MAHP		Stable														R	N	(F)	(F)	N	N	N	N	N	N	N
194	513.5 MAHP		Stable														R	N	N	(F)	O	N	N	N	N	N	N
194	513.3 MAHP		Unstable														N	N	F	N	N	N	N	N	N	N	N
194	513.2 MAHP		No prediction														N	N	N	N	N	N	N	N	N	N	N
	Cracraft, Ark., 513 MAHP			-4	-9	-1	-4	-10	-6	+4	+1	-3	-4	-3	-7	-8	-7	-3	-1	-5	-3	+10	-3	+6	-10	-10
142	513.3 MAHP	12-13	Stable								-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
142	513.1 and 512.9 MAHP		No prediction								-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
142	512.7 MAHP		Stable								-	-	-	R	N	N	O	(F)	N	N	N	N	N	N	N	N
159	512.7 MAHP	12-14	No prediction										-	R	N	N	N	N	N	N	N	N	N	N	N	N
216	508.6 to 508.0 MAHP	12-21	Unstable														-	-	-	-	-	-	-	-	-	-	-
142	Range 80U	12-13	No prediction								-	-	-	R	N	N	O	O	N	N	N	O	N	N	N	N
142	Range 74U		Stable								O	N	N	O	N	N	N	N	N	N	N	N	N	N	N	N
9	Ranges 61U to 44U	12-3	Stable	N	N	N	O	N	N	N	N	N	N	N	N	N	N	N	N	N	(F)	N	O	N	N	N
9	Range 33U		Unstable	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N
9	Ranges 26U and 18U		Stable	N	N	N	N	N	N	N	N	O	N	N	N	N	N	N	N	N	N	N	N	N	N	N
9	Range 6U		Unstable	F	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N
25	Range 30D	12-4	Unstable	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N

(Continued)

Table 6 (Continued)

Revetment Site No.	Location	Potamology Report in Which Borings Are Evaluated	Predicted Performance with Regard to Flow Failure	Estimated Maximum River Stage Referenced to Bank-Full Conditions (ft) Observed Performance (Letter Symbols)																						
				54	55	56	57	58	59	60	61	62	63	64	65	66	67	68	69	70	71	72	73	74	75	76	77
				VICKSBURG DISTRICT (Continued)																						
	Carolina, Miss., 507 MAHP				-4	-9	-1	-4	-10	-6	+4	+1	-3	-4	-3	-8	-7	-7	-3	-1	-5	-3	+10	-4	+6	-10	-10
118	Ranges 6U to 44U	12-11	Stable								R	O	N	N	N	N	N	N	N	N	N	N	N	N	N	N
118	Range 37U		Unstable								R	O	O	F	N	N	N	N	N	N	N	N	N	N	N	N
26	Range 3D	12-4	Stable	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N
	Sarah Island, Miss., 504 MAHP														-3	-8	-7	-7	-3	-1	-5	-3	+10	-4	+6	-10	-10
181	Ranges 52U to 45U	12-24	Stable																					-	-	-	-
181	Ranges 38U to 29U		No prediction																					-	-	-	-
181	Ranges 18U to 8U		Unstable																					-	-	-	-
181	505.0 MAHP	12-18	Stable												-	-	-	-	-	-	-	-	-	-	-	-	-
181	504.85 to 503.85 MAHP		Unstable												R	N	N	N	N	N	N	N	N	N	N	N	N
181	503.70 MAHP		Stable												R	N	N	N	N	N	N	N	N	N	N	N	N
181	503.45 and 503.3 MAHP		Unstable												R	N	N	N	N	O	N	N	N	N	N	N	N
181	503.10 MAHP		Stable												-	-	R	N	N	N	N	N	N	N	N	O	N
181	502.95 MAHP		No prediction												-	-	R	N	N	N	N	N	N	N	N	N	N
	Mayersville, Miss., 496 MAHP								-11	-6	+4	+1	-3	-4	-3	-8	-7	-7	-3	-1	-5	-3	+10	-4	+6	-10	-10
217	501.7 MAHP	12-24	Stable																					-	-	-	-
217	501.4 MAHP		Unstable																					-	-	-	-
217	501.1 MAHP		No prediction																					-	-	-	-
217	500.85 to 500.20 MAHP	12-21	Stable															-	-	-	-	-	-	-	-	-	-
217	499.95 MAHP		Unstable															-	-	-	-	-	-	-	-	-	-
119	499.9 MAHP	12-11	Stable								-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
217	499.8 MAHP	12-21	Stable															-	-	-	-	-	-	-	-	-	-
217	499.65 MAHP		Unstable															-	-	-	-	-	-	-	-	-	-
217	499.5 MAHP		Stable															-	-	-	-	-	-	-	-	-	-
119	499.4 MAHP	12-11	Unstable								-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
217	499.3 MAHP	12-21	Stable															-	-	-	-	-	-	-	-	-	-
94	Range 80U	12-9	Unstable						N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N
94	Range 56U		Stable						O	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N
94	Range 48U		Unstable						N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N
94	Range 40U		Stable						N	O	N	O	O	N	N	N	N	N	N	N	N	N	N	N	N	N	N
	Louisiana Bar, La., 490 MAHP							-4	-11	-6	+4	+1	-3	-4	-3	-8	-7	-6	-2	0	-4	-3	+10	-5	+6	-11	-11
78	491.4 to 490.3 MAHP	12-8	Stable					-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
78	489.7 MAHP		Unstable					-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	Baleshed-Stack Island, La., 489 MAHP													-4	-3	-8	-7	-6	-2	0	-4	-3	+10	-6	+6	-11	-11
325	493.9 MAHP	12-22	Unstable																		-	-	-	-	-	-	-
325	493.7 MAHP		Unstable																		-	-	-	-	-	-	-

(Continued)

Table 6 (Continued)

No.	Revetment Site Location	Potamology Report in Which Borings Are Evaluated	Predicted Performance with Regard to Flow Failure	Estimated Maximum River Stage Referenced to Bank-Full Conditions (ft) Observed Performance (Letter Symbols) 54	55	56	57	58	59	60	61	62	63	64	65	66	67	68	69	70	71	72	73	74	75	76	77
												VICKSBURG DISTRICT (Continued)																	
	Baleshed-Stack Island, La., 489 MAHP (Continued)																												
325	493.5 MAHP		Unstable																		-	-	-	-	-	-	-
325	493.3 MAHP		Stable																		-	-	-	-	-	-	-
325	493.1 MAHP		Stable																		-	-	-	-	-	-	-
173	492.90 MAHP	12-17	Unstable											-	-	-	-	-	-	-	-	-	-	-	-	-	-
173	492.70 MAHP		Stable											-	-	-	-	-	-	-	-	-	-	-	-	-	-
173	492.50 MAHP		Unstable											-	-	-	-	-	-	-	-	R	N	N	N	N	N
173	492.30 MAHP		No prediction											-	-	-	-	-	-	-	-	R	N	N	N	N	N
173	492.10 MAHP		Unstable											-	-	-	-	-	-	-	-	R	N	N	N	N	N
173	491.90 to 491.75 MAHP		Stable											-	-	-	-	-	-	-	-	R	N	N	N	N	N
173	491.55 MAHP		No prediction											-	-	-	-	-	-	R	N	N	N	N	N	N	N
173	491.40 MAHP		Unstable											-	-	-	-	-	-	R	F	F	F	N	N	N	N
173	491.15 and 491.00 MAHP		Stable											-	-	-	-	-	-	R	O	N	(F)	N	N	N	N
173	490.80 to 490.4 MAHP		Unstable											R	N	N	N	N	N	N	N	N	F	N	N	N	N
160	490.15 MAHP	12-14	Unstable											R	N	N	N	N	N	N	N	N	N	N	N	N	N
160	490.00 MAHP		Stable											R	N	N	N	N	N	N	N	N	N	N	N	N	N
160	489.80 to 489.70 MAHP		Unstable											R	N	N	N	N	N	N	N	N	N	N	N	N	N
160	489.50 and 489.35 MAHP		Unstable											-	R	N	N	N	N	N	N	N	N	N	N	N	N
160	489.15 MAHP		Unstable											-	-	R	N	N	N	N	N	N	N	N	N	N	N
160	489.00 to 488.60 MAHP		Unstable											N	N	N	N	N	N	N	N	N	N	N	N	N	N
160	488.45 MAHP		Stable											N	N	N	N	N	N	N	N	N	N	N	N	N	N
160	488.25 to 487.70 MAHP		Unstable											N	N	N	N	N	N	N	N	N	O	N	N	N	N
160	487.50 MAHP		Stable											N	N	N	N	N	N	N	N	N	N	N	N	N	N
160	487.35 MAHP		Unstable											N	N	N	N	N	N	N	F	F	N	N	N	N	N
160	487.15 MAHP		Unstable											R	N	N	N	N	F	N	N	N	N	N	N	N	N
160	486.95 to 486.75 MAHP		Unstable											-	R	N	N	N	N	N	N	N	N	N	N	N	N
182	486.60 MAHP	12-18	Unstable											-	R	N	N	N	N	N	N	O	N	N	N	N	N
182	486.40 and 486.20 MAHP		Unstable												-	R	N	N	N	N	N	N	N	N	N	N	N
195	486.00 MAHP	12-19	Unstable														R	N	N	N	N	N	N	N	N	N	N
195	485.80 to 485.40 MAHP		Unstablw														-	-	R	N	N	O	N	N	N	N	N
218	485.3 to 484.2 MAHP	12-21	Unstable															-	-	R	N	N	N	N	N	O	N
218	483.7 to 483.4 MAHP	12-24	Unstable																					-	-	-	-
	Ben Lomond, Miss., 487 MAHP					-9	-1	-4	-11	-7	+3	-3	-3	-4	-2	-8	-7	-6	-2	0	-4	-3	+10	-5	+6	-11	-12
42	Ranges 33U and 19U	12-6	Stable			-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
42	Ranges 5U to 21D		Stable			N	N	O	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N
42	Ranges 34D and 49D		Unstable			N	N	F	N	N	F	F	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N
	Hagaman, La., 483 MAHP			-4	-9	-1	-4	-11	-7	+3	+1	-3	-4	-3	-8	-7	-6	-2	0	-4	-3	+10	-4	+6	-11	-12	
95	Ranges 146 and 166	12-9	No prediction				-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
95	Range 176		Stable				-	R	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	
27	Ranges 186 to 241	12-4	Stable	O	N	O	O	O	N	N	O	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	
27	Range 265		Unstable	N	N	O	O	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	
143	Ranges 288 to 309	12-13	Stable								R	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	

(Continued)

Table 6 (Continued)

No.	Revetment Site Location	Potamology Report in Which Borings Are Evaluated	Predicted Performance with Regard to Flow Failure	Estimated Maximum River Stage Referenced to Bank-Full Conditions (ft) Observed Performance (Letter Symbols)																						
				54	55	56	57	58	59	60	61	62	63	64	65	66	67	68	69	70	71	72	73	74	75	76	77
	VICKSBURG DISTRICT (Continued)																									
	Hagaman, La., 483 MAHP (Continued)																									
143	Range 316		Unstable									R	N	N	N	N	N	N	N	N	N	N	N	N	N	N
143	Range 321		Stable									R	N	N	N	N	N	N	N	N	N	N	N	N	N	N
143	Range 335		No prediction									R	N	N	N	N	N	N	N	N	N	N	N	N	N	N
143	Range 342		Unstable									-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	Cottonwood, Miss., 472 MAHP					-10	-1	-4	-12	-7	+3	0	-3	-5	-3	-8	-8	-6	-2	0	-4	-3	+10	-3	+6	-11	-12
128	Range 26U	12-12	Unstable								R	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N
43	Range 11U	12-6	Unstable			-	R	N	N	F	F	N	N	N	N	N	N	N	N	N	N	N	F	N	N	N	N
43	Range 3D		Stable			-	R	N	N	N	O	N	N	N	N	N	N	N	N	N	(F)	N	N	N	N	N	N
43	Ranges 16D to 52D		Unstable			N	F	N	N	N	N	N	F	N	N	N	N	N	N	N	N	N	F	F	N	N	N
43	Range 72D		Stable			N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N
161	472.05 to 471.25 MAHP	12-14	Unstable											-	-	-	-	-	-	-	-	-	-	-	-	-	-
161	471.05 MAHP		Stable											-	-	-	-	-	-	-	-	-	-	-	-	-	-
161	470.85 and 470.60 MAHP		Unstable											-	-	-	-	-	-	-	-	-	-	-	-	-	-
	Goodrich, La., 470 MAHP							-4	-12	-8	+4	0	-4	-5	-3	-8	-8	-6	-2	0	-4	-4	+10	-2	+6	-11	-12
96	470.2 MAHP	12-9	Stable						-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
96	470.0 MAHP		Unstable						-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
174	Range 120U	12-17	No prediction						-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
174	Range 112U		No prediction						-	-	-	-	-	-	-	R	N	N	N	N	N	N	N	N	N	N	N
174	Range 105U		Unstable											R	N	N	N	F	N	N	N	N	N	N	N	N	N
174	Range 99U		No prediction											R	N	N	N	N	N	N	N	N	N	N	N	N	N
79	Ranges 88U to 64U	12-8	Unstable					O	F	N	N	F	F	F	N	N	N	N	N	N	N	N	N	N	N	N	N
79	Range 120D	12-24	Stable																					-	R	N	N
79	Ranges 131D to 142D		Unstable																					-	R	N	N
79	Range 158D		Unstable																					-	-	-	-
	Belle Island, La. and Miss., 460 MAHP					-10	-2	-4	-13	-7	+3	0	-4	-6	-4	-8	-8	-6	-2	0	-4	-4	+10	-1	+6	-11	-12
330	463.2 to 462.3 MAHP	12-23	Stable																			-	-	-	R	N	N
330	462.1 MAHP		Unstable																			-	-	-	R	N	N
44	Range 39D	12-6	Stable			N	N	N	O	O	N	O	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N
61	Range 54D	12-7	Unstable				N	N	N	N	N	O	N	N	N	N	N	N	N	N	N	N	O	N	N	N	N
61	Ranges 67D and 74D		No prediction				O	N	N	N	O	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N
61	Range 87D		Stable				-	-	-	R	N	N	N	N	N	N	N	N	N	N	N	N	(F)	N	N	N	N
61	Range 212D		Unstable				-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	Milliken Bend, Ark., 455 MAHP			-21	-5	-10	-2	-5	-13	-8	+2	0	-4	-6	-4	-8	-8	-6	-2	0	-4	-4	+10	-1	+6	-11	-12
10	Ranges 112D and 124D	12-3	Stable	-	-	-	-	R	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N
10	Range 134D		Unstable	-	-	-	-	R	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N
97	Ranges 178D to 212D	12-9	Unstable						N	N	F	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N

(Continued)

Table 6 (Continued)

No.	Revetment Site Location	Potamology Report in Which Borings Are Evaluated	Predicted Performance with Regard to Flow Failure	Estimated Maximum River Stage Referenced to Bank-Full Conditions (ft) Observed Performance (Letter Symbols)																						
				54	55	56	57	58	59	60	61	62	63	64	65	66	67	68	69	70	71	72	73	74	75	76	77
	VICKSBURG DISTRICT (Continued)																									
	Marshall Browns Point, Miss. and La., 447 MAHP				-5	-10	-2	-5	-13	-8	+2	-1	-4	-6	-4	-9	-9	-6	-2	0	-4	-5	+10	0	+6	-11	-12
11	Ranges 16U and 8U	12-3	Unstable		F	N	N	F	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N
11	Range 2U*		Stable		(F)	(F)	N	(F)	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N
11	Range 5D		Unstable		N	N	O	O	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N
11	Ranges 11D and 18D		No prediction		F	N	O	O	N	N	N	O	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N
11	Ranges 24D and 31D		Unstable		F	F	F	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N
	Kings Point, Miss., 439 MAHP										+2	-1	-5	-6	-4	-9	-9	-5	-2	0	-3	-5	*+10*	+1	+6	-11	-12
129	Range 6D	12-12	Stable								R	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N
129	Ranges 19D and 29D		Unstable								R	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N
162	439.80 to 439.40 MAHP	12-14	Unstable								-	-	-	R	N	N	N	N	N	N	N	N	N	N	N	N	N
129	439.25 MAHP	12-12	Unstable								-	-	-	R	N	N	N	N	N	N	N	N	N	N	N	N	N
162	439.15 to 438.10 MAHP	12-14	Unstable										-	R	N	N	N	N	N	N	N	N	N	N	N	N	N
	Delta Point, La., 437 MAHP					-11	-3	-5	-13	-8	+2	-1	-5	-7	-4	-9	-9	-5	-2	0	-3	-5	+10	+2	+7	-10	-11
45	Ranges 24D and 47D	12-6	Unstable			-	-	-	-	-	R	N	N	N	N	N	N	N	N	N	N	N	O	N	O	N	N
45	Range 70D		Stable			-	-	-	-	-	R	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N
	Racetrack, Miss., 433 MAHP					-10	-3	-5	-14	-8	+2	-1	-5	-6	-4	-9	-9	-5	-2	0	-3	-5	+10	+2	+7	-10	-11
196	435.4 to 434.7 MAHP	12-19	Stable														-										
46	Ranges 25U to 9D	12-6	Stable			-	-	-	-	-	R	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N
46	Range 33D		Unstable			N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N
46	Range 50D		Stable			N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N
	Oak Bend, Miss., 425 MAHP															-8	-8	-5	-2	0	-3	-5	+10	+3	+7	-10	-11
183	426.45 to 425.85 MAHP	12-18	Stable													-	-	-	-	-	-	-	-	-	-	-	-
	Reid-Bedford, La., 428 MAHP				-5	-10	-3	-5	-13	-8	+2	-1	-5	-6	-4	-8	-8	-5	-2	0	-3	-5	+10	+3	+7	-10	-10
28	429.15 MAHP	12-4	Stable		O	N	N	N	N	O	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N
28	428.75 to 427.65 MAHP		Unstable		N	F	F	F	F	N	N	N	N	N	F	N	N	N	N	N	N	N	F	N	N	N	N
28	427.25 MAHP		Stable		N	N	O	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N
	Diamond, La. and Miss., 423 MAHP						-2	-4	-13	-8	+2	0	-4	-6	-4	-8	-8	-5	-2	0	-3	-5	+10	+3	+7	-9	-10
62	424.90 to 425.15 MAHP	12-7	Stable				-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
62	Range 14U		Unstable				N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N
62	Range 1D		No prediction				N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N
62	Ranges 7D to 40D		Unstable				-	R	N	F	N	O	N	N	F	N	N	N	N	N	N	N	N	N	N	N	N

(Continued)

* Boring location previously predicted to be unstable. See Appendix A, Report 12-13, for discussion.

Table 6 (Continued)

No.	Revetment Site Location	Potamology Report in Which Borings Are Evaluated	Predicted Performance with Regard to Flow Failure	Estimated Maximum River Stage Referenced to Bank-Full Conditions (ft) Observed Performance (Letter Symbols)																					
				54	55	56	57	58	59	60	61	62	63	64	65	66	67	68	69	70	71	72	73	74	75	76	77
	VICKSBURG DISTRICT (Continued)																								
	Lake Karnac, La. and Miss., 419 MAHP							-4	-13	-8	+2	+1	-4	-6	-4	-8	-8	-5	-2	0	-3	-4	-10	+3	+7	-9	-9
120	421.00 and 420.75 MAHP	12-11	Stable								-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
120	420.5 MAHP		Stable								-	-	-	R	N	N	N	N	N	N	N	N	N	N	N	N
80	Ranges 18D to 36D	12-8	Stable					R	N	O	N	O	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N
80	Range 46D		Unstable					-	R	O	O	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N
80	Range 54D		Unstable					-	R	N	F	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N
80	Range 65D		No prediction					-	R	F	N	O	N	N	N	N	N	N	O	N	N	N	N	N	N	N	N
144	Range 97D	12-13	Unstable									R	N	N	N	N	N	N	F	N	N	N	N	N	N	N	N
144	Ranges 106D and 112D		Stable									R	N	N	N	N	N	N	(F)	N	N	N	O	N	N	N	N
144	Range 119D		Unstable									R	N	N	N	N	N	N	N	N	N	N	O	N	N	N	N
144	Range 126D		Stable									R	N	N	N	N	N	N	N	N	N	N	O	N	N	N	N
	Togo Island, La., 415 MAHP																								+7	-9	-8
343	Ranges 44U to 24U	12-24	Stable																						-	-	-
343	Range 14U		No prediction																						R	N	N
343	Ranges 4U to 14D		Unstable																						R	N	F
	Point Pleasant, La. and Miss., 413 MAHP													-5	-3	-8	-8	-5	-2	0	-3	-4	+10	+4	+7	-9	-8
323	415.7 MAHP	12-22	Unstable																	R	N	N	N	N	N	N	N
323	415.5 MAHP		Stable																	R	N	N	N	N	N	N	N
241	415.4 to 415.3 MAHP	12-21	Unstable																F	N	N	N	N	N	N	N	N
197	415.3 to 415.1 MAHP	12-19	Unstable														N	N	N	N	N	N	N	N	N	N	N
163	414.20 MAHP	12-14	Stable											-	-	-	R	N	N	N	N	N	N	N	N	N	N
163	414.00 MAHP		Unstable											-	-	-	R	N	F	N	N	N	N	N	N	N	N
163	413.85 MAHP		Stable											-	-	-	R	O	N	N	N	N	N	N	N	N	N
163	413.65 MAHP		No prediction											-	-	R	N	N	N	N	N	N	N	N	N	N	N
163	413.45 MAHP		Unstable											-	-	R	N	N	N	N	N	N	N	N	N	N	N
163	413.25 MAHP		No prediction											-	-	R	N	N	N	N	N	N	N	N	N	N	N
163	413.05 to 412.90 MAHP		Stable											-	-	R	N	N	N	N	N	N	N	O	N	N	N
163	412.75 MAHP		Unstable											-	-	R	N	N	N	N	N	F	N	O	N	N	N
163	412.55 to 412.40 MAHP		Stable											-	-	R	N	N	N	N	N	N	N	N	N	N	N
163	412.20 MAHP		No prediction											-	-	R	N	N	N	N	N	N	N	N	N	N	N
184	412.00 MAHP	12-18	No prediction													R	N	N	N	N	N	O	N	F	N	N	N
184	411.80 to 411.4 MAHP		Stable													R	N	N	N	N	N	O	N	N	N	N	N
184	411.20 MAHP		Unstable													-	-	-	-	-	-	-	-	-	-	-	-
184	411.00 MAHP		Stable													-	-	-	-	-	-	-	-	-	-	-	-
	Grand Gulf, Miss., 405 MAHP										+2	+1	-3	-5	-3	-7	-7	-5	-2	0	-3	-4	+10	+4	+8	-8	-7
185	410.8 MAHP	12-23	Stable																			-	-	-	-	-	-
185	410.6 to 410.2 MAHP		Unstable																			-	-	-	-	-	-
185	410.3 and 410.1	12-18	Unstable												R	N	N	N	N	N	N	N	N	N	N	N	N
185	409.95 MAHP		No prediction												R	N	N	N	N	N	N	N	N	N	N	N	N
185	409.80 MAHP		Stable												R	N	N	N	N	N	N	N	N	N	N	N	N

(Continued)

Table 6 (Continued)

Revetment Site No.	Revetment Site Location	Potamology Report in Which Borings Are Evaluated	Predicted Performance with Regard to Flow Failure	Estimated Maximum River Stage Referenced to Bank-Full Conditions (ft) Observed Performance (Letter Symbols) 54	55	56	57	58	59	60	61	62	63	64	65	66	67	68	69	70	71	72	73	74	75	76	77
				VICKSBURG DISTRICT (Continued)																							
	Grand Gulf, Miss., 405 MAHP (Continued)																										
185	409.65 to 408.95 MAHP		Unstable												R	N	N	F	N	O	N	N	F	F	N	N	N
185	408.75 and 408.60 MAHP		No prediction												R	N	N	N	N	N	N	N	N	N	N	N	N
185	408.6 MAHP	12-24	No prediction												R	N	N	N	N	N	N	N	N	N	R	N	N
185	408.3 to 407.2 MAHP		Stable																						R	N	N
198	407.0 MAHP		Unstable																					-	-	-	-
198	406.7 to 406.5 MAHP		Stable																					-	-	-	-
198	406.3 MAHP		Unstable																					-	-	-	-
198	406.2 MAHP	12-19	No prediction														-	-	-	-	-	-	-	-	R	N	N
198	406.0 to 405.8 MAHP		Unstable														-	-	-	-	-	-	-	-	R	N	N
198	405.6 to 405.2 MAHP		No prediction														-	-	-	-	-	-	-	-	R	N	N
121	Ranges 0 to 11D	12-11	No prediction								-	-	-	-	-	-	-	-	-	-	-	-	-	-	R	N	N
121	Ranges 18D and 25D		No prediction								N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N
121	Range 31D		Stable								N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N
121	Range 38D		Unstable								N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N
121	Range 44D		No prediction								N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N
121	Ranges 52D to 83L		Stable								N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N
121	Range 90D		No prediction								N	N	N	N	N	N	N	F	N	N	N	N	N	N	N	N	N
121	Range 98D		Unstable								N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N
121	Range 104D		No prediction								N	N	N	N	N	N	N	F	N	N	N	N	N	N	F	N	N
121	Ranges 111D to 123D		Unstable								N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N
121	Range 130D		Stable								N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N
130	Range 135D	12-12	Stable								N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N
130	Ranges 141D and 146D		Unstable								N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N
130	Range 151D		Stable								N	N	N	N	N	N	O	N	N	N	N	N	N	N	N	N	N
130	Range 156D		Unstable								N	N	N	N	N	N	F	N	N	N	N	N	N	N	N	N	N
130	Ranges 162D to 179D		Unstable								R	N	N	N	N	N	N	F	F	O	N	O	N	N	N	N	N
130	Range 186D		Unstable								-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	Browns Field, La., 390 MAHP																			0	-3	-3	+11	+5	+8	-8	-7
314	Range 4+50D	12-22	Unstable																	-	-	-	-	-	-	-	-
314	Range 10+100D		Unstable																	-	-	-	-	-	-	-	-
314	Range 18D		Unstable																	-	-	-	-	-	-	-	-
314	Range 26+50D		Unstable																	R	N	N	N	N	N	N	N
314	Range 31+50D		No prediction																	R	N	N	N	N	N	N	N
314	Range 39D		Stable																	R	N	N	N	N	N	N	N
314	Range 45+50D		No prediction																	R	N	N	N	N	N	N	N
314	Range 50+50D		No prediction																	R	N	N	N	F	N	N	N
314	Range 56+10D		No prediction																	R	N	O	N	N	N	N	N
314	Range 61+60D		Stable																	R	(F)	N	N	N	N	N	N
314	Range 67D		No prediction																	R	N	O	N	N	N	N	N
314	Range 73D		No prediction																	-	R	N	N	N	N	N	N
314	Range 79+30D		No prediction																		R	N	N	N	N	N	N
314	Range 86-15D		Stable																		-	-	-	-	-	-	-
314	Range 92+50D		No prediction																		-	-	-	-	-	-	-

(Continued)

Table 6 (Continued)

Revetment Site No.	Location	Potamology Report in Which Borings Are Evaluated	Predicted Performance with Regard to Flow Failure	Estimated Maximum River Stage Referenced to Bank-Full Conditions (ft) Observed Performance (Letter Symbols) 54	55	56	57	58	59	60	61	62	63	64	65	66	67	68	69	70	71	72	73	74	75	76	77
				VICKSBURG DISTRICT (Continued)																							
	Browns Field, La., 390 MAHP (Continued)																										
314	Range 100D		No prediction																		-	-	-	-	-	-	-
314	Range 106D		Stable																	-	-	-	-	-	-	-	-
314	Range 113+75D		Stable																	-	-	-	-	-	-	-	-
314	Range 120D		No prediction																	-	-	-	-	-	-	-	-
	Goldbottom, Miss., 389 MAHP									-8	+2	+1	-3	-4	-3	-7	-7	-5	-2	0	-3	-3	+11	+5	+8	-8	-7
107	Ranges 26U to 7D	12-24	Unstable																					-	-	-	-
107	Ranges 14D to 21D		No prediction																					-	-	-	-
107	Range 22D	12-10	No prediction							-	-	-	-	R	N	N	N	N	N	N	N	N	N	N	N	N	N
107	Range 35D		No prediction							N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N
107	Ranges 50D and 65D		Stable							N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N
107	Range 78D		Unstable							N	N	F	N	N	O	N	F	N	N	N	N	O	F	N	N	N	N
107	Range 91D		No prediction							N	O	O	N	N	N	N	N	N	N	F	N	N	N	F	N	N	N
107	Ranges 104D to 142D		Unstable							N	O	F	N	N	F	N	N	F	F	N	N	N	F	F	N	N	N
131 164	Range 149D	12-12 12-14	Unstable						R	N	N	N	N	N	N	N	N	F	F	N	N	F	N	N	N	N	N
131 164	Range 154D to 168D		Unstable							-	-	-	R	N	N	N	N	N	N	N	N	F	F	F	N	N	N
131 164	Range 175D		Unstable							-	-	-	-	-	-	-	-	-	-	-	-	-	-	R	N	N	N
164 219	390.2 to 388.4 MAHP	12-14 12-21	Unstable											-	-	-	-	-	-	-	-	-	-	R	N	N	N
219	388.2 MAHP	12-21	Stable															-	-	-	-	-	-	-	-	-	-
219	388.0 MAHP		Unstable															-	-	-	-	-	-	-	-	-	-
219	387.8 to 386.8 MAHP		Stable															-	-	-	-	-	-	-	-	-	R
	Kempe Bend, La., 384 MAHP													-4	-3	-6	-7	-5	-2	0	-3	-3	+10	+4	+7	-9	-6
165	384.95 to 384.25 MAHP	12-14	Unstable											-	-	-	-	-	-	-	-	-	-	RO	F	N	N
	Ashland, Miss., 377 MAHP													-4	-3	-6	-7	-5	-2	0	-3	-4	+9	+4	+7	-9	-6
166	378.95 and 378.75 MAHP	12-14	Unstable											-	-	-	-	-	-	-	-	-	-	-	-	-	-
166	378.55 MAHP		Stable											-	-	-	-	-	-	-	-	-	-	-	-	-	-
166	378.35 and 378.20 MAHP		Unstable											-	-	-	-	-	-	-	-	-	-	-	-	-	-
166	378.00 MAHP		Stable											-	-	-	-	-	-	-	-	-	-	-	-	-	R
166	377.80 MAHP		No prediction											-	-	-	-	-	-	-	-	-	-	-	-	-	R
166	377.55 and 377.30 MAHP		Unstable											-	-	-	-	-	-	-	-	-	-	-	-	R	N
166	377.10 MAHP		No prediction											-	-	-	-	-	-	-	-	-	-	-	-	R	N
166	376.95 to 376.40 MAHP		Stable											-	-	-	-	-	-	-	-	-	-	-	-	R	N
	Gibson, La., 370 MAHP									-8	+2	0	+5	-4	-4	-6	-8	-5	-2	0	-3	-5	+8	+3	+6	-9	-6
186	370.70 MAHP	12-18	Stable													N	N	N	N	N	N	N	O	N	N	N	N
186	370.55 MAHP		Unstable													N	N	N	N	N	N	N	N	N	N	N	N
108	370.40 MAHP	12-10	Unstable							-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	R	N	N

(Continued)

Table 6 (Continued)

Revetment Site No.	Revetment Site Location	Potamology Report in Which Borings Are Evaluated	Predicted Performance with Regard to Flow Failure	Estimated Maximum River Stage Referenced to Bank-Full Conditions (ft) Observed Performance (Letter Symbols) 54	55	56	57	58	59	60	61	62	63	64	65	66	67	68	69	70	71	72	73	74	75	76	77
				VICKSBURG DISTRICT (Continued)																							
	Gibson, La., 370 MAHP (Continued)																										
186	370.35 and 370.15 MAHP	12-18	Unstable													N	N	N	N	N	N	N	N	N	N	N	N
108	370.10 MAHP	12-10	Unstable							-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	R	N	N
186	369.95 MAHP	12-18	Unstable													N	N	N	N	N	N	N	N	N	N	N	N
186	369.75 MAHP		No prediction													N	N	N	N	N	N	N	N	N	N	N	N
199	369.6 to 369.4 MAHP	12-19	Unstable														N	N	N	N	N	N	N	N	N	N	N
199	369.2 MAHP		No prediction														N	N	N	N	N	N	N	N	N	N	N
	Natchez Harbor, Miss., 362 MAHP						-2	-3	-12	-8	+2	0	-5	-4	-4	-6	-8	-5	-2	0	-3	-6	+8	+3	+6	-9	-6
63	363.7 to 363.6 MAHP	12-24	Stable																						R	N	N
63	362.3 MAHP	12-7	Stable				-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
63	362.1 MAHP		No prediction				-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
63	361.9 MAHP		Stable				-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
63	361.7 and 361.5 MAHP		No prediction				-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
63	361.3 MAHP		Stable				-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	Carthage, Miss., 361 MAHP													-4	-4	-6	-8	-5	-2	0	-3	-6	+8	+3	+6	-9	-6
167	362.30 MAHP	12-14	Stable											-	-	-	-	-	-	-	-	-	-	-	-	-	-
167	361.95 MAHP		Stable											N	N	N	N	N	N	N	N	N	N	N	N	N	N
167	361.20 and 361.00 MAHP		No prediction											N	N	N	N	N	N	N	N	N	N	N	N	N	N
167	360.90 and 360.70 MAHP		Stable											-	-	-	-	-	-	-	-	-	-	-	-	-	-
167	360.55 MAHP		No prediction											-	-	-	-	-	-	-	-	-	-	-	-	-	-
167	359.95 MAHP		Stable											-	-	-	-	-	-	-	-	-	-	-	-	-	-
167	359.55 and 359.35 MAHP		No prediction											-	-	-	-	-	-	-	-	-	-	-	-	-	-
331	360.9 to 360.5 MAHP	12-23	No prediction																			-	-	-	-	-	-
331	360.3 MAHP		Stable																			-	-	-	-	-	-
331	360.1 MAHP		No prediction																			-	-	-	-	-	-
331	359.95 MAHP		Stable																			-	-	-	-	-	-
331	359.75 MAHP		No prediction																			-	-	-	-	-	-
331	359.5 to 359.4 MAHP		Stable																			-	-	-	-	-	-
	Morville, La., 354 MAHP															-5	-7	-5	-2	0	-3	-6	+8	+3	+6	-9	-6
187	355.7 to 355.3 MAHP	12-18	No prediction													-	-	-	-	-	-	-	-	-	-	-	-
187	355.15 to 354.75 MAHP		Stable													-	-	-	-	-	-	-	-	-	-	-	-
187	354.60 and 354.40 MAHP		No prediction													-	-	-	-	-	-	-	-	-	-	-	-
187	354.25 and 354.05 MAHP		Stable													-	-	-	-	-	-	-	-	-	-	-	-
187	353.85 MAHP		No prediction													-	-	-	-	-	-	-	-	-	-	-	-
187	353.65 MAHP		Stable													-	-	-	-	-	-	-	-	-	-	-	-
200	353.5 MAHP	12-19	No prediction														-	-	-	-	-	-	-	-	-	-	-
200	353.3 to 353.1 MAHP		Stable														-	-	-	-	-	-	-	-	-	-	-
200	352.9 to 352.4 MAHP		No prediction														-	-	-	-	-	-	-	-	-	-	-
200	352.2 MAHP		Stable														-	-	-	-	-	-	-	-	-	-	-
200	351.9 MAHP		Stable														-	-	-	-	-	-	-	-	-	-	-

(Continued)

Table 6 (Continued)

No.	Revetment Site Location	Potamology Report in Which Borings Are Evaluated	Predicted Performance with Regard to Flow Failure	Estimated Maximum River Stage Referenced to Bank-Full Conditions (ft) Observed Performance (Letter Symbols) 54	55	56	57	58	59	60	61	62	63	64	65	66	67	68	69	70	71	72	73	74	75	76	77
				VICKSBURG DISTRICT (Continued)																							
	St. Catherine, La., 350 MAHP															-5	-6	-5	-2	0	-3	-6	+8	+3	+6	-9	-6
188	351.30 and 351.0 MAHP	12-18	Unstable													N	N	N	N	N	N	N	N	N	N	N	N
188	350.65 to 349.15 MAHP		No prediction													N	N	N	N	N	N	N	N	N	N	N	N
	Railroad Landing, Miss., 345 MAHP																							+3	+6	-9	-6
344	347.2 MAHP	12-24	No prediction																					-	-	-	-
344	346.95 to 343.95 MAHP		Stable																					-	-	-	-
	Glasscock Cutoff, Miss.-La., 342 MAHP																							+3	+6	-9	-6
345	344.2 MAHP	12-24	Unstable																					-	-	-	-
345	343.9 to 343.05 MAHP		No prediction																					-	-	-	-
345	342.85 to 342.55 MAHP		Stable																					-	-	-	-
345	342.3 to 342.0 MAHP		No prediction																					-	-	-	-
345	341.85 MAHP		Stable																					-	-	-	-
345	341.65 to 341.4 MAHP		No prediction																					-	-	-	-
345	341.25 MAHP		Unstable																					-	-	-	-
345	341.1 to 340.95 MAHP		No prediction																					-	-	-	-
345	340.75 MAHP		Unstable																					-	-	-	-
345	340.55 MAHP		No prediction																					-	-	-	-
345	340.35 MAHP		Unstable																					-	-	-	-
345	340.1 MAHP		No prediction																					-	-	-	-
345	339.85 MAHP		Unstable																					-	-	-	-
	Dead Man's Bend, Miss., 335 MAHP																							+3	+6	-9	-6
346	338.1 to 337.9 MAHP	12-24	No prediction																					-	-	-	-
346	337.8 MAHP		Stable																					-	-	-	-
346	337.6 to 337.05 MAHP		No prediction																					-	-	-	-
346	336.95 MAHP		Unstable																					-	-	-	-
346	336.8 MAHP		No prediction																					-	-	-	-
346	336.6 to 336.2 MAHP		Unstable																					-	-	-	-
346	336.0 MAHP		Stable																					-	-	-	-
346	335.85 to 335.6 MAHP		No prediction																					-	-	-	-
346	335.3 to 334.7 MAHP		Stable																					-	-	-	-
346	334.4 MAHP		No prediction																					-	-	-	-
346	334.1 MAHP		Stable																					-	-	-	-
346	333.95 to 333.7 MAHP		Unstable																					-	-	-	-
346	333.4 to 333.1 MAHP		No prediction																					-	-	-	-
346	332.85 MAHP		Unstable																					-	-	-	-
346	332.55 to 332.25		No prediction																					-	-	-	-

(Continued)

Table 6 (Continued)

No.	Revetment Site Location	Potamology Report in Which Borings Are Evaluated	Predicted Performance with Regard to Flow Failure	Estimated Maximum River Stage Referenced to Bank-Full Conditions (ft) Observed Performance (Letter Symbols)																						
				54	55	56	57	58	59	60	61	62	63	64	65	66	67	68	69	70	71	72	73	74	75	76	77
	VICKSBURG DISTRICT (Continued)																									
	Bougere Bend, La., 328 MAHP															-4	-3	-5	-2	0	-3	-6	+8	+3	+6	-9	-6
242	Range 60U	12-21	Stable																–	–	–	–	–	–	–	–	–
242	Range 52U		No prediction																–	–	–	–	–	–	–	–	–
242	Ranges 47U and 40U		Stable																–	–	–	–	–	–	–	–	–
132	Ranges 51U and 44U	12-12	No prediction									–	–	–	–	–	–	–	R	N	N	N	N	N	N	N	N
132	Range 38U		Stable									–	–	–	–	–	–	–	R	N	N	N	N	N	N	N	N
132	327.5 MAHP	12-24	No prediction																					–	–	–	–
132	327.2 to 326.95 MAHP		Stable																					–	–	–	–
132	326.65 MAHP		No prediction																					–	–	–	–
**																											
	NEW ORLEANS DISTRICT (Date or year of revetment construction not furnished)																										
	Palmetto Bend, Miss., 325 MAHP																		-2	0	-2	-2	+12	+7	+8	-7	-2
243	Ranges 324.15 to 323.5	12-21	Stable																–	–	–	–	–	–	–	–	–
243	Range 322.8		No prediction																–	–	–	–	–	–	–	–	–
	Black Hawk, La., 317 MAHP																					-2	+12	+6	+9	-6	-2
336	Ranges 316.8 to 316.1	12-23	Stable																			–	–	–	–	–	–
336	Range 315.7		No prediction																			–	–	–	–	–	–
336	Ranges 315.3 to 314.65		Stable																			–	–	–	–	–	–
336	Ranges 314.2 to 313.65		No prediction																			–	–				
	Point Breeze, La., 312 MAHP																					-2	+12	+5	+10	-5	-1
337	Ranges 312.01 to 311.5	12-23	Stable																			–	–	–	–	–	–
337	Ranges 311.23 to 310.83		Unstable																			–	–	–	–	–	–
337	Range 310.6		No prediction																			–	–	–	–	–	–
337	Range 309.9		Stable																			–	–	–	–	–	–
337	Range 309.05		Unstable																			–	–	–	–	–	–
337	Ranges 308.4 to 308.2	12-24	Stable																							–	–
	Carr Point, La., 303 MAHP																									-4	-1
349	Range 303.1	12-24	No prediction																							–	–
349	Range 302.8		Stable																							–	–
349	Range 302.3		No prediction																							–	–
	Smithland, La., 299 MAHP																									-4	-1
350	Range 299.6	12-24	Stable																							–	–
350	Range 299.4		No prediction																							–	–

(Continued)

** See Table 4 of Potamology Report 12-20 and earlier reports of this series for failure history of sites 23, 39, 75, 76, 77, 109, and 110 along the Arkansas River in the Vicksburg District and sites 12 and 13 along the Mississippi River in the New Orleans District.

Table 6 (Continued)

Revetment Site No.	Revetment Site Location	Potamology Report in Which Borings Are Evaluated	Predicted Performance with Regard to Flow Failure	Estimated Maximum River Stage Referenced to Bank-Full Conditions (ft) Observed Performance (Letter Symbols) 54	55	56	57	58	59	60	61	62	63	64	65	66	67	68	69	70	71	72	73	74	75	76	77
	NEW ORLEANS DISTRICT (Continued)																										
	Hog Point, La., 295 MAHP																		-2	0	-2	-2	+12	+4	+11	-4	-1
244	Ranges 299.0 and 298.7	12-24	Stable																								-
244	Range 298.4		Unstable																								-
244	Range 296.3	12-21	Unstable																-	-	-	-	-	-	-	-	-
281	Ranges 296.1 to 295.95	12-22	Stable																	-	-	-	-	-	-	-	-
244	Range 293.7	12-21	Unstable																-	-	-	-	-	-	-	-	-
281	Range 293.1	12-22	No prediction																		-	-	-	-	-	-	-
244	Range 292.9	12-21	No prediction																-	-	-	-	-	-	-	-	-
244	Range 291.9		Unstable																-	-	-	-	-	-	-	-	-
	Morganza, La., 279 MAHP																									-3	-1
351	Ranges 280.2 to 275.0	12-24	Stable																							-	-
	St. Maurice, La., 272 MAHP																										0
353	Ranges 272.7 and 271.2	12-24	Stable																								-
	Red Store Landing, La., 268 MAHP																										0
354	Ranges 269.0 and 268.1	12-24	Stable																								-
354	Range 268.0		No prediction																								-
354	Range 267.4		Stable																								-
	Pointe Coupee, La., 265 MAHP																										0
355	Range 265.8	12-24	No prediction																								-
355	Range 264.7		Stable																								-
	Bayou Sara, La., 262 MAHP																								+12	-3	0
341	Ranges 264.9 to 261.1	12-24	Stable																						-	-	-
341	Range 260.0		No prediction																						-	-	-
348	Ranges 261.3 to 260.35		Stable																							-	-
	Waterloo, La., 260 MAHP																									-3	0
356	Range 260.2	12-24	Unstable																								-
	Springfield Bend, La., 240 MAHP																		0	+2	0	+1	+12	+6	+13	-2	+1
245	Ranges 240.1 to 239.1	12-21	Unstable																-	-	-	-	-	-	-	-	-
	Allendale, La., 236 MAHP																		0	+2	0	+1	+12	+8	+12	-2	+1
246	Ranges 236.5 to 234.9	12-21	Stable																-	-	-	-	-	-	-	-	-

(Continued)

Table 6 (Continued)

Revetment Site No.	Location	Potamology Report in Which Borings Are Evaluated	Predicted Performance with Regard to Flow Failure	Estimated Maximum River Stage Referenced to Bank-Full Conditions (ft) Observed Performance (Letter Symbols) 54	55	56	57	58	59	60	61	62	63	64	65	66	67	68	69	70	71	72	73	74	75	76	77
	NEW ORLEANS DISTRICT (Continued)																										
	Scotlandville, La., 233 MAHP																				0	+1	+12	+10	+11	-2	+1
282	Ranges 234.3 to 230.2	12-22	Stable																	-	-	-	-	-	-	-	-
282	Range 232.3	12-24	Stable																							-	-
	Port Allen, La., 232 MAHP																		0	+3	0	+1	+12	+10	+11	-2	+1
247	Ranges 232.9 to 231.7	12-21	Stable																-	-	-	-	-	-	-	-	-
283	Range 231.1	12-22	Stable																		-	-	-	-	-	-	-
247	Ranges 231.0 to 228.0	12-21	Stable																-	-	-	-	-	-	-	-	-
247	Ranges 227.3 to 226.8	12-21	Unstable																-	-	-	-	-	-	-	-	-
	Missouri Bend, La., 221 MAHP																				0	+1	+12	+10	+11	-2	+1
284	Ranges 223.1 to 219.6	12-22	Stable																		-	-	-	-	-	-	-
284	Range 218.8		Unstable																		-	-	-	-	-	-	-
	Manchac Bend, La., 215 MAHP																		+1	+3	0	+1	+12	+10	+11	-2	+1
248	Range 219.2	12-21	Stable																-	-	-	-	-	-	-	-	-
248	Ranges 218.8 to 218.2		Unstable																-	-	-	-	-	-	-	-	-
248	Range 217.6		No prediction																-	-	-	-	-	-	-	-	-
248	Ranges 217.1 to 211.9		Stable																-	-	-	-	-	-	-	-	-
248	Range 211.2		Unstable																-	-	-	-	-	-	-	-	-
	Plaquemine, La., 212 MAHP																				0	+1	+11	+10	+11	-2	+1
285	Range 212.1	12-22	Stable																		-	-	-	-	-	-	-
285	Range 211.5		Unstable																		-	-	-	-	-	-	-
285	Ranges 211.0 to 210.5		Stable																		-	-	-	-	-	-	-
	St. Gabriel, La., 202 MAHP																				0	+1	+11	+10	+11	-2	+1
202	Ranges 203.0 to 201.6	12-21	Stable															-	-	-	-	-	-	-	-	-	-
202	Range 199.9	12-24	Stable																						-	-	-
	White Castle, La., 195 MAHP																				0	+1	+11	+10	+11	-2	+1
286	Ranges 198.75 to 197.43	12-22	Stable																		-	-	-	-	-	-	-
286	Range 196.85		Unstable																		-	-	-	-	-	-	-
286	Ranges 191.02 to 189.75		Stable																		-	-	-	-	-	-	-
	New River, La., 187 MAHP																				0	+1	+10	+9	+10	-2	+1
287	Ranges 191.75 to 182.3	12-22	Stable																		-	-	-	-	-	-	-
	Philadelphia Point, La., 183 MAHP																		+1	+2	0	0	+9	+9	+10	-2	+1
249	Ranges 183.8 to 183.3	12-21	Unstable																-	-	-	-	-	-	-	-	-

(Continued)

Table 6 (Continued)

Revetment Site No.	Location	Potamology Report in Which Bearings Are Evaluated	Predicted Performance with Regard to Flow Failure	Estimated Maximum River Stage Referenced to Bank-Full Conditions (ft) Observed Performance (Letter Symbols) 54	55	56	57	58	59	60	61	62	63	64	65	66	67	68	69	70	71	72	73	74	75	76	77
			NEW ORLEANS DISTRICT (Continued)																								
	Marchand, La., 180 MAHP																	-1	+1	+2	0	0	+9	+9	+9	-2	0
250	Range 181.3	12-21	Stable																-	-	-	-	-	-	-	-	-
221	Range 180.6		Stable															-	-	-	-	-	-	-	-	-	-
221	Ranges 180.0 to 179.6		Unstable															-	-	-	-	-	-	-	-	-	-
	Smoke Bend, La., 178 MAHP																	-1	+1	+2	0	0	+8	+8	+9	-2	0
251	Ranges 179.0 to 178.5	12-21	Stable																-	-	-	-	-	-	-	-	-
222	Range 177.9		Stable															-	-	-	-	-	-	-	-	-	-
251	Ranges 177.2 to 176.6		Stable																-	-	-	-	-	-	-	-	-
251	Ranges 176.1 to 175.4		Unstable																-	-	-	-	-	-	-	-	-
	Aben, La., 173 MAHP																		+1	+2	0	0	+8	+8	+9	-2	0
252	Ranges 174.5 to 170.9	12-21	Stable																-	-	-	-	-	-	-	-	-
	St. Elmo, La., 173 MAHP																		+1	+2	0	0	+8	+8	+9	-2	0
253	Range 175.8	12-21	Unstable																-	-	-	-	-	-	-	-	-
253	Range 175.2		Stable																-	-	-	-	-	-	-	-	-
253	Range 174.6		No prediction																-	-	-	-	-	-	-	-	-
253	Range 174.0	12-24	Stable																							-	-
253	Range 173.3		Stable																-	-	-	-	-	-	-	-	-
	Burnside, La., 170 MAHP																	0	+2	+2	0	0	+9	+8	+10	-1	+1
223	Ranges 171.4 to 168.0	12-21	Stable															-	-	-	-	-	-	-	-	-	-
223	Range 171.2	12-22	Stable																		-	-	-	-	-	-	-
	Romeville, La., 162 MAHP																	+1	+3	+3	+1	+1	+10	+8	+11	0	+2
224	Range 162.4	12-21	Stable															-	-	-	-	-	-	-	-	-	-
254	Ranges 163.0 to 159.2		Stable																-	-	-	-	-	-	-	-	-
	Rich Bend, La., 157 MAHP																	+2	+4	+4	+3	+3	+10	+9	+11	+1	+3
225	Ranges 160.0 and 159.3	12-21	Stable															-	-	-	-	-	-	-	-	-	-
225	Range 158.8		Unstable															-	-	-	-	-	-	-	-	-	-
225	Ranges 158.3 to 155.9		Stable															-	-	-	-	-	-	-	-	-	-
225	Ranges 155.4 and 154.8		No prediction															-	-	-	-	-	-	-	-	-	-
225	Range 154.2		Stable															-	-	-	-	-	-	-	-	-	-
	Belmont, La., 153 MAHP																		+4	+4	+3	+3	+10	+9	+11	+1	+3
255	Range 155.1	12-21	Unstable																-	-	-	-	-	-	-	-	-
255	Range 154.6		Stable																-	-	-	-	-	-	-	-	-
255	Range 154.0		Unstable																-	-	-	-	-	-	-	-	-
255	Ranges 153.5 to 151.8		Stable																-	-	-	-	-	-	-	-	-
255	Ranges 151.3 to 149.2		Unstable																-	-	-	-	-	-	-	-	-

(Continued)

Table 6 (Continued)

No.	Revetment Site Location	Potamology Report in Which Borings Are Evaluated	Predicted Performance with Regard to Flow Failure	Estimated Maximum River Stage Referenced to Bank-Full Conditions (ft) Observed Performance (Letter Symbols) 54	55	56	57	58	59	60	61	62	63	64	65	66	67	68	69	70	71	72	73	74	75	76	77
	NEW ORLEANS DISTRICT (Continued)																										
	Vacherie, La., 148 MAHP																		+4	+4	+3	+3	+10	+9	+10	+1	+3
256	Ranges 150.3 to 146.6	12-21	Stable																-	-	-	-	-	-	-	-	-
	Angelina, La., 145 MAHP																		+4	+4	+3	+3	+10	+8	+10	+1	+3
257	Ranges 147.6 to 147.1	12-21	Unstable																-	-	-	-	-	-	-	-	-
257	Ranges 146.6 to 143.2		Stable																-	-	-	-	-	-	-	-	-
257	Range 142.5		Unstable																-	-	-	-	-	-	-	-	-
	Willow Bend, La., 141 MAHP																		+4	+4	+3	+3	+10	+8	+9	0	+2
258	Ranges 143.2 to 140.1	12-21	Stable																-	-	-	-	-	-	-	-	-
258	Range 139.2		Unstable																-	-	-	-	-	-	-	-	-
	Reserve, La., 138 MAHP																		+4	+4	+3	+3	+10	+8	+9	0	+2
259	Ranges 140.1 to 136.8	12-21	Stable																-	-	-	-	-	-	-	-	-
	Lucy, La., 135 MAHP																	+2	+4	+4	+3	+3	+10	+8	+9	0	+2
226	Ranges 136.6 to 135.2	12-20	Stable															-	-	-	-	-	-	-	-	-	-
226	Ranges 134.6 and 134.2		Unstable															-	-	-	-	-	-	-	-	-	-
	Bonnet Carré, La., 132 MAHP																		+4	+4	+3	+3	+10	+8	+9	0	+2
260	Ranges 134.8 and 134.7	12-24	Stable																						-	-	-
260	Ranges 134.4 to 130.7	12-21	Stable																-	-	-	-	-	-	-	-	-
260	Range 129.8		Unstable																-	-	-	-	-	-	-	-	-
	Little Gypsy Setback, La., 130 MAHP																					+3	+10	+8	+9	0	+2
228	Ranges 131.1 to 130.4	12-23	Stable																			-	-	-	-	-	-
338	Range 130.25		Unstable																			-	-	-	-	-	-
338	Range 130.05		No prediction																			-	-	-	-	-	-
338	Ranges 129.4 to 128.9		Unstable																			-	-	-	-	-	-
	Waterford, La., 127 MAHP																		+4	+4	+3	+3	+10	+8	+9	0	+2
261	Ranges 130.7 to 129.2	12-21	Stable																-	-	-	-	-	-	-	-	-
261	Range 128.5		No prediction																-	-	-	-	-	-	-	-	-
261	Ranges 127.8 to 126.0		Stable																-	-	-	-	-	-	-	-	-
261	Range 125.2		Unstable																-	-	-	-	-	-	-	-	-
288	Range 124.3	12-22	Unstable																		-	-	-	-	-	-	-
	Goodhope, La., 123 MAHP																				+3	+3	+9	+7	+8	0	+2
289	Range 125.5	12-23	Stable																			-	-	-	-	-	-
289	Ranges 124.1 to 122.5	12-22	Stable																		-	-	-	-	-	-	-

(Continued)

Table 6 (Continued)

Revetment Site No.	Revetment Site Location	Potamology Report in Which Borings Are Evaluated	Predicted Performance with Regard to Flow Failure	Estimated Maximum River Stage Referenced to Bank-Full Conditions (ft) Observed Performance (Letter Symbols) 54	55	56	57	58	59	60	61	62	63	64	65	66	67	68	69	70	71	72	73	74	75	76	77
				NEW ORLEANS DISTRICT (Continued)																							
	Destrehan, La., 121 MAHP																				+3	+9	+7	+8	0	+2
339	Range 121.6	12-23	Stable																		-	-	-	-	-	-
	Luling, La., 118 MAHP																		+4	+4	+3	+3	+9	+7	+8	0	+2
262	Ranges 123.4 to 121.3	12-21	Stable																-	-	-	-	-	-	-	-	-
290	Ranges 121.1 to 116.5	12-22	Stable																		-	-	-	-	-	-	-
262	Ranges 116.3 to 115.6	12-21	Stable																-	-	-	-	-	-	-	-	-
290	Ranges 114.8 to 113.9	12-22	Unstable																		-	-	-	-	-	-	-
290	Range 113.0		Stable																		-	-	-	-	-	-	-
	Kenner, La., 115 MAHP																				+3	+3	+8	+6	+7	0	+1
291	Ranges 117.6 to 110.1	12-22	Stable																		-	-	-	-	-	-	-
291	Range 109.4		Unstable																		-	-	-	-	-	-	-
291	Range 108.5		Stable																		-	-	-	-	-	-	-
	Avondale, La., 108 MAHP																		+4	+4	+3	+3	+7	+6	+7	0	+1
292	Range 111.0	12-22	Unstable																		-	-	-	-	-	-	-
263	Ranges 109.8 to 109.4	12-21	Stable																-	-	-	-	-	-	-	-	-
292	Ranges 108.0 to 106.3	12-22	Stable																		-	-	-	-	-	-	-
292	Ranges 106.2 and 106.15	12-24	Stable																								-
294	Range 105.7		Stable																	-	-	-	-	-	-	-	-
263	Range 105.5	12-21	No prediction																-	-	-	-	-	-	-	-	-
294	Range 105.1	12-22	Stable																	-	-	-	-	-	-	-	-
263	Range 105.0	12-21	Stable																-	-	-	-	-	-	-	-	-
	Carrolton, La., 104 MAHP																				+3	+3	+7	+6	+7	0	+1
293	Ranges 106.6 to 106.2	12-22	Stable																		-	-	-	-	-	-	-
293	Range 105.7		Unstable																		-	-	-	-	-	-	-
293	Range 105.2		Stable																		-	-	-	-	-	-	-
293	Range 102.3		Unstable																		-	-	-	-	-	-	-
293	Range 101.6		No prediction																		-	-	-	-	-	-	-
293	Range 101.0		Stable																		-	-	-	-	-	-	-
293	Range 102.7	12-24	Unstable																						-	-	-
293	Range 101.6		No prediction																						-	-	-
	Greenville Bend, La., 100 MAHP																		+4	+4	+3	+3	+7	+6	+7	0	+2
264	Range 102.0	12-21	Stable																-	-	-	-	-	-	-	-	-
295	Range 100.3	12-22	Unstable																		-	-	-	-	-	-	-
264	Range 98.4	12-21	Stable																-	-	-	-	-	-	-	-	-
	New Orleans Harbor, La., 98 MAHP																					+3	+7	+6	+8	+1	+3
332	Range 100.45	12-24	Unstable																						-	-	-

(Continued)

Table 6 (Continued)

Revetment Site No.	Revetment Site Location	Potamology Report in Which Borings Are Evaluated	Predicted Performance with Regard to Flow Failure	Estimated Maximum River Stage Referenced to Bank-Full Conditions (ft) Observed Performance (Letter Symbols) 54	55	56	57	58	59	60	61	62	63	64	65	66	67	68	69	70	71	72	73	74	75	76	77
	NEW ORLEANS DISTRICT (Continued)																										
	New Orleans Harbor, La., 98 MAHP (Continued)																										
332	Range 100.30		No prediction																						-	-	-
332	Ranges 100.00 to 99.20		Unstable																						-	-	-
332	Range 99.0	12-23	Unstable																						-	-	-
332	Ranges 98.7 to 98.3		Stable																			-	-	-	-	-	-
333	Ranges 95.43 to 94.83		Stable																			-	-	-	-	-	-
333	Ranges 94.8 to 94.55	12-24	Stable																			-	-	-	-	-	-
	Gretna, La., 97 MAHP																			+4	+3	+3	+7	+6	+8	+1	+3
296	Ranges 97.8 to 96.2	12-22	Stable																	-	-	-	-	-	-	-	-
	Algiers, La., 94 MAHP																				+3	+3	+8	+7	+8	+2	+3
297	Range 95.5	12-22	Stable																		-	-	-	-	-	-	-
297	Range 95.1	12-24	Stable																						-	-	-
297	Ranges 94.9 to 94.7		Unstable																						-	-	-
297	Range 94.0		Stable																					-	-	-	-
297	Range 93.9		Stable																						-	-	-
297	Range 93.5	12-23	Stable																			-	-	-	-	-	-
297	Range 93.05		Unstable																		-	-	-	-	-	-	-
	Third District, La., 90 MAHP																				+4	+4	+8	+7	+8	+2	+3
298	Ranges 94.65 to 89.6	12-22	Stable																		-	-	-	-	-	-	-
298	Ranges 92.4 to 90.8	12-24	Stable																								-
298	Range 88.9		Unstable																		-	-	-	-	-	-	-
	Meraux, La., 88 MAHP																					+4	+8	+7	+8	+2	+3
314	Range 88.1	12-23	Unstable																			-	-	-	-	-	-
	Cut off, La., 88 MAHP																	+3	+4	+4	+4	+4	+8	+7	+8	+2	+3
227	Range 91.7	12-22	Unstable																		-	-	-	-	-	-	-
227	Ranges 90.8 to 86.8	12-21	Stable															-	-	-	-	-	-	-	-	-	-
227	Range 86.1	12-21	Unstable															-	-	-	-	-	-	-	-	-	-
	Story, La., 85 MAHP																					+4	+8	+7	+8	+2	+3
335	Range 85.5	12-23	Stable																			-	-	-	-	-	-
	Poydras, La., 82 MAHP																	+3	+4	+4	+4	+4	+8	+7	+8	+2	+3
228	Ranges 86.5 and 86.1	12-21	Stable															-	-	-	-	-	-	-	-	-	-
228	Range 85.5	12-21	Stable																-	-	-	-	-	-	-	-	-
228	Range 84.4		Unstable															-	-	-	-	-	-	-	-	-	-

(Continued)

Table 6 (Continued)

No.	Revetment Site Location	Potamology Report in Which Borings Are Evaluated	Predicted Performance with Regard to Flow Failure	Estimated Maximum River Stage Referenced to Bank-Full Conditions (ft) Observed Performance (Letter Symbols) 54	55	56	57	58	59	60	61	62	63	64	65	66	67	68	69	70	71	72	73	74	75	76	77
	NEW ORLEANS DISTRICT (Continued)																										
	Poydras, La., 82 MAHP (Continued)																										
228	Ranges 83.8 and 83.3		Stable															-	-	-	-	-	-	-	-	-	-
228	Ranges 82.8 and 82.5		Unstable															-	-	-	-	-	-	-	-	-	-
228	Ranges 82.2 and 78.8		Stable															-	-	-	-	-	-	-	-	-	-
	Twelve-Mile Point, La., 81 MAHP																				+4	+4	+8	+7	+8	+2	+3
299	Range 83.5	12-23	Stable																			-	-	-	-	-	-
299	Range 82.75	12-22	Stable																		-	-	-	-	-	-	-
299	Range 81.3		No prediction																		-	-	-	-	-	-	-
299	Range 81.0		Unstable																		-	-	-	-	-	-	-
299	Range 80.5		Stable																		-	-	-	-	-	-	-
299	Range 80.1		Unstable																		-	-	-	-	-	-	-
	English Turn, La., 79 MAHP																			+4	+4	+4	+8	+7	+8	+2	+3
300	Range 78.85	12-22	Stable																	-	-	-	-	-	-	-	-
300	Range 78.5	12-23	Stable																			-	-	-	-	-	-
	Belle Chase, La., 76.4 MAHP																									+2	+3
352	Range 76.4	12-24	Stable																							-	-
	Oak Point, La., 74 MAHP																		+4	+4	+4	+4	+8	+7	+8	+2	+3
301	Ranges 75.2 to 72.8	12-24	Stable																								-
301	Range 74.6	12-23	No prediction																			-	-	-	-	-	-
301	Range 74.5	12-22	Stable																		-	-	-	-	-	-	-
267	Ranges 73.5 to 72.0	12-21	Stable																-	-	-	-	-	-	-	-	-
267	Range 71.3		Unstable																-	-	-	-	-	-	-	-	-
	Scarsdale, La., 74 MAHP																		+4	+4	+4	+4	+8	+7	+8	+2	+3
266	Ranges 77.3 to 74.3	12-21	Stable																-	-	-	-	-	-	-	-	-
266	Ranges 73.5 to 72.9		Unstable																-	-	-	-	-	-	-	-	-
	Linwood, La., 71 MAHP																	+3	+4	+4	+4	+4	+8	+7	+8	+2	+3
229	Ranges 71.5 to 70.4	12-21	Stable															-	-	-	-	-	-	-	-	-	-
229	Range 69.7		Unstable															-	-	-	-	-	-	-	-	-	-
	Belair, La., 65 MAHP																		+4	+4	+4	+4	+7	+7	+7	+2	+3
303	Range 67.3	12-22	Stable																	-	-	-	-	-	-	-	-
268	Ranges 66.7 to 62.6	12-21	Stable																-	-	-	-	-	-	-	-	-
268	Range 66.5	12-23	Unstable																			-	-	-	-	-	-

(Continued)

Table 6 (Continued)

No.	Revetment Site Location	Potamology Report in Which Borings Are Evaluated	Predicted Performance with Regard to Flow Failure	Estimated Maximum River Stage Referenced to Bank-Full Conditions (ft) Observed Performance (Letter Symbols) 54	55	56	57	58	59	60	61	62	63	64	65	66	67	68	69	70	71	72	73	74	75	76	77
	NEW ORLEANS DISTRICT (Continued)																										
	Alliance, La., 63 MAHP																		+4	+4	+4	+4	+7	+7	+7	+3	+3
269	Ranges 65.6 to 61.6	12-21	Stable																-	-	-	-	-	-	-	-	-
269	Range 60.9		No prediction																-	-	-	-	-	-	-	-	-
	Monsecour, La., 61 MAHP																	+3	+4	+4	+4	+4	+7	+7	+7	+3	+3
230	Ranges 62.0 to 60.7	12-21	Stable															-	-	-	-	-	-	-	-	-	-
270	Range 60.3		Stable																-	-	-	-	-	-	-	-	-
	Myrtle Grove, La., 58 MAHP																	+3	+4	+4	+4	+4	+6	+7	+7	+3	+3
271	Ranges 60.4 to 59.7	12-21	Stable																-	-	-	-	-	-	-	-	-
231	Range 58.8		Stable															-	-	-	-	-	-	-	-	-	-
271	Range 57.7		Stable																-	-	-	-	-	-	-	-	-
	Harlem, La., 58 MAHP																		+4	+4	+4	+4	+6	+7	+7	+3	+3
272	Range 58.0	12-21	Stable																-	-	-	-	-	-	-	-	-
	Junior, La., 54 MAHP																	+3	+4	+4	+4	+4	+5	+6	+6	+3	+3
273	Range 55.9	12-21	Stable																-	-	-	-	-	-	-	-	-
232	Range 54.5		Stable															-	-	-	-	-	-	-	-	-	-
	Gravolet, La., 52 MAHP																	+3	+4	+4	+3	+4	+5	+6	+6	+3	+3
274	Range 52.6	12-21	Stable																-	-	-	-	-	-	-	-	-
233	Range 51.7		Stable															-	-	-	-	-	-	-	-	-	-
274	Ranges 50.5 to 49.7		Stable																-	-	-	-	-	-	-	-	-
	Diamond, La., 48 MAHP																		+4	+4	+3	+3	+5	+6	+6	+3	+3
275	Range 50.9	12-21	Unstable																-	-	-	-	-	-	-	-	-
275	Ranges 50.2 to 48.6		Stable																-	-	-	-	-	-	-	-	-
275	Ranges 48.0 to 46.7		Unstable																-	-	-	-	-	-	-	-	-
	Bohemia, La., 47 MAHP																		+4	+4	+3	+3	+5	+6	+6	+3	+3
276	Range 46.95	12-21	Stable																-	-	-	-	-	-	-	-	-
	Point Michel, La., 44 MAHP																		+4	+4	+3	+3	+6	+6	+6	+3	+3
277	Range 43.9	12-21	Stable																-	-	-	-	-	-	-	-	-
	Nestor, La., 42 MAHP																		+4	+3	+3	+3	+6	+3	+3	0	+3
278	Ranges 44.2 to 41.8	12-21	Stable																-	-	-	-	-	-	-	-	-
304	Ranges 41.2 to 40.5	12-22	Stable																	-	-	-	-	-	-	-	-
304	Range 39.8		Unstable																	-	-	-	-	-	-	-	-

(Continued)

Table 6 (Concluded)

No.	Revetment Site Location	Potamology Report in Which Borings Are Evaluated	Predicted Performance with Regard to Flow Failure	Estimated Maximum River Stage Referenced to Bank-Full Conditions (ft) Observed Performance (Letter Symbols)																					
				54	55	56	57	58	59	60	61	62	63	64	65	66	67	68	69	70	71	72	73	74	75	76	77
	NEW ORLEANS DISTRICT (Concluded)																								
	Sixty Mile Point, La., 33 MAHP																					+4	+6	+4	+4	+2	+3
340	Ranges 33.9 to 33.8	12-23	Stable																			-	-	-	-	-	-
	Tropical Bend, La., 30 MAHP																	+3	+4	+2	+4	+4	+6	+5	+5	+4	+4
234	Range 32.4	12-21	Stable															-	-	-	-	-	-	-	-	-	-
234	Range 32.0		No prediction															-	-	-	-	-	-	-	-	-	-
234	Ranges 30.9 to 28.55		Stable															-	-	-	-	-	-	-	-	-	-
	Neptune, La., 24 MAHP																			+2	+4	+4	+6	+5	+5	+3	+4
305	Ranges 26.2 to 23.4	12-22	Stable																	-	-	-	-	-	-	-	-
305	Range 22.8		Unstable																	-	-	-	-	-	-	-	-
305	Ranges 21.9 to 21.2		Stable																	-	-	-	-	-	-	-	-
	Fort Jackson, La., 20 MAHP																		+3	+2	+4	+4	+5	+4	+4	+3	+3
280	Range 23.05	12-21	Unstable																-	-	-	-	-	-	-	-	-
306	Range 20.8	12-22	Stable																	-	-	-	-	-	-	-	-
306	Range 20.2		Unstable																	-	-	-	-	-	-	-	-
306	Range 19.6		Stable																	-	-	-	-	-	-	-	-
	Olga, La., 16 MAHP																			+2	+3	+3	+4	+3	+3	+2	+2
307	Ranges 20.6 to 17.0	12-22	Stable																	-	-	-	-	-	-	-	-
307	Range 16.4		Unstable																	-	-	-	-	-	-	-	-
307	Ranges 15.9 to 14.0		Stable																	-	-	-	-	-	-	-	-
307	Ranges 13.4 to 12.8		Unstable																	-	-	-	-	-	-	-	-
307	Ranges 12.2 to 11.6		Stable																	-	-	-	-	-	-	-	-
	Venice, La., 14 MAHP																		+3	+2	+3	+3	+4	+3	+3	+2	+2
280	Ranges 16.9 to 11.5	12-21	Stable																-	-	-	-	-	-	-	-	-

Table

1974 Failures at Sites Previously Analyz

No.	Revetment Site Failure Location	Year Site Revetted	Date Failure First Noted	Date Failure Surveyed	Boring Data* No.	Report in Which Analyzed	O ft	A ft	R Value	Prediction	Location of Boring with Respect to Failure ft	Failure Type	Fail Posi t W o W max ft
①	②	③	④	⑤	⑥	⑦	⑧	⑨	⑩	⑪	⑫	⑬	⑭
													MEMPHIS DI
21	Harbert Point, Miss., 675 MAHP												
	154+00 to 156+00	1953	Aug	Aug	6	12-3	37	0	--	Stable	100 US	Flow	275
37	St. Francis, Ark., 668 MAHP												
	477+00	1955	May	May	6	12-6	41	15	2.73	Stable	100 DS	Shear	150
	480+00	1955	May	May	6	12-6	41	15	2.73	Stable	100 US	Shear	200
	503+00	1955	May	May	8	12-6	74	5+	--	No prediction	150 US	Shear	200
170	Island 63, Miss., 639 MAHP												
	148+00 to 152+00	1973	Mar	Jul	B-G-73	12-23	0	49	--	Unstable	350 DS	Flow	500
38	Ludlow, Ark., 625 MAHP												
	80+00 to 81+50	1955	Jul	Aug	6	12-6	66	14	4.71	Stable	400 US	Shear	175
													VICKSBURG DI
148	Terrene, Miss., 593 MAHP												
	R-68-D	1964	Jul	Jul	TR-5-63U	12-14	42	58	0.72	Unstable	250 US	Shear	125
153	Mounds, Miss., 563 MAHP												
	R-64-D to R-70-D	1969	Jul	Jul	M-13-63	12-14	19	73	0.26	Unstable	200 US	Flow	350
	R-101-D to R-103-D	1972	Jul	Jul	M-3-66U	12-19	33	41	0.80	Unstable	275 US	Flow	250
	R-122-D	1972	Mar	Jul	M-4-72U	12-23	19	68	0.28	Unstable	425 DS	Flow	200
154	Arkansas City-Yellow Bend, Ark., 552 MAHP												
	R-191-D to R-194-D	1968	Feb	Jul	YB-1-63U	12-14	49	35	1.40	Stable	400 DS	Shear	325
347	Warfield Point, Miss., 537 MAHP												
	R-17-D to R-20-D	1946	Apr	Apr	WP-3-75U	12-24	43	51	0.84	Unstable	50 US	Flow	450
43	Fitler-Cottonwood, Miss., 472 MAHP												
	R-18-D to R-20-D	1957	Mar	Aug	C-3-55	12-6	24	36	0.67	Unstable	350 US	Flow	325

(Conti

* O = overburden thickness, ft; A = Zone A sand thickness, ft; R = ratio of overburden thickness to Zone A sand thickness (O/A).
** See Figure 2 wherein: W = width of shear failure; W_{max} = maximum width of flow failure; W_{min} = minimum width of flow failure; bank (+ if riverside, - if landside).

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alyzed, Memphis and Vicksburg Districts

Failure Dimensions and Position with Respect to Top of Bank**				Additional Information Concerning the Failure Location	Site Failure History Since 1954
W_{max} or W_{min} ft (14)	W_{min} ft (15)	Y ft (16)	Z ft (17)	(18)	(19)
MS DISTRICT					
275	125	250	+20	The failure was reported on 9 Aug to be 200 ft with a 10-ft bluff bank. On 14 Aug, failure was reported to be 275 ft long with a 15-ft bluff bank	Two shear failures were reported in 1957 at R-163+00 and R-174+50. One shear failure between R-162+00 and R-167+00 was reported in 1959. One shear failure was reported in 1963 at R-163+00. In 1973 one shear failure was reported at R-114+00
150	--	75	+80	These failures are within an area where mattress reinforcement was proposed	One shear failure was reported at R-471+00 in 1969 and again in 1970 at the same location
200	--	120	+40		
200	--	75	+70		
500	250	400	-150	This failure first reported on 11 Mar. Due to high river stages no dimensions were available	In 1970 a general scour area was reported at R-78+00. Two flow failures were reported in 1972 at R-133+00 and R-139+00
175	--	200	+50	The failure was reported on 31 Jul to be 130 ft long with a 12- to 14-ft bluff bank	One shear failure was reported in 1957 at R-78+00. In 1964 one shear failure was reported at R-57+00. In 1965 one flow failure was reported at R-40+00 and one flow failure was reported at R-60+00 in 1967
G DISTRICT					
125	--	125	+60	Failure was located 250 ft downstream of a general scour area approximately 900 ft in length	No previous failures along this reach
350	175	225	0		Three flow failures were reported in 1973 at R-71-D, R-74-D, and R-76-D. In 1969 two flow failures were reported at R-60-D and R-67-D. One shear failure was reported at R-12-D in 1967
250	125	200	0		
200	100	150	0	A general scour area approximately 600 ft long adjacent and upstream of this failure	
325	--	325	-60		One flow failure was reported between R-193-D and R-195-D in 1968 as reported in Report 12-21. In 1970, a flow failure was reported between R-202-D and R-204-D. One flow failure was reported at R-197-D in 1973
450	150	300	-70	Boring located in this area made after the failure and before new revetment was placed	No previous failures along this reach
325	150	300	0	Failure was located within a scour area approximately 750 ft in length	One flow failure was reported at R-52-D in 1957. Two flow failures were reported between R-12-U and R-8-U and between R-6-U and R-1-U in 1960. One flow failure was reported at R-7-U and one shear type failure was reported at R-2-D in 1961. Two flow type failures were reported at R-16-D and R-33-D in 1963. One flow failure was reported between R-4-D and R-8-D in 1971. In 1973, two flow failures were reported at R-12-U and R-14-D

(Continued)

1).

ure; Y = distance from top of failure to W_{min} (flow failure) or to toe of shear slide; Z = distance from top of slide to top of

Table 7 (Contin

Revetment Site No.	Revetment Site Failure Location	Year Site Revetted	Date Failure First Noted	Date Failure Surveyed	Boring Data: No.	Boring Data: Report in Which Analyzed	Boring Data: O ft	Boring Data: A ft	Boring Data: R Value	Boring Data: Prediction	Location of Boring with Respect to Failure ft	Failure Type	Failure D Position to Top: W or W max ft	Failure D Position to Top: W mi ft
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)
												VICKSBURG DISTRICT (Co		
163	Point Pleasant, La., and Miss., 413 MAHP													
	R-140-D to R-143-D	1966	Aug	Aug	D-5-63U	12-14	52	45	1.16	Stable	375 Landward	Shear	525	--
	R-151-D to R-153-D	1972	Aug	Aug	D-4-63U	12-14	36	64+	0.56	Unstable	475 Landward	Shear	200	--
	R-181-D to R-182-D	1972	Mar	Aug	P-1-65U	12-18	56	34+	--	No prediction	350 US	Flow	275	75
185	Grand Gulf, Miss., 409 MAHP													
	R-161-U to R-159-U	1965	Aug	Aug	G-6-65U	12-18	30	45	0.67	Unstable	200 DS	Flow	350	15
	R-149-U	1965	Jul, 73	Aug	G-7-65U	12-18	20	45	0.44	Unstable	375 US	Flow	175	7
	R-134-U to R-132-U	1968	Aug	Aug	G-10-65U	12-18	26	64	0.41	Unstable	200 DS	Flow	275	10
107	Goldbottom, Miss., 391 MAHP													
	R-79-D to R-84-D	1959	Jul	Sep	GB-6-59	12-10	34	55	0.62	Unstable	250 US	Flow	550	27
	R-87-D to R-90-D	1970	Jul	Sep	GB-5-59	12-10	62	27+	--	No prediction	200 DS	Flow	325	15
	R-130-D to R-132-D	1961	Jul	Sep	GB-2-59	12-10	24	64+	0.38	Unstable	0	Flow	300	7
	R-160-D	1971	Jul	Aug	GB-3-63	12-14	7	93	0.08	Unstable	200 DS	Flow	175	7
	R-163-D to R-166-D	1971	Jul	Aug	GB-16-67	12-20	2	72	0.03	Unstable	200 DS	Flow	375	10
314	Browns Field, La., 390 MAHP													
	R-49-D to R-53-D	1970	Jul	Sep	BF-8-70U	12-22	54	47+	--	No prediction	0	Flow	375	20
	Kemp Bend, La., 384 MAHP													
	R-37-U to R-33-U	1959	Sep	Sep	K-4-63	12-14	17	71	0.24	Unstable	300 UP	Shear	400	--

7 (Continued)

Failure Dimensions and Position with Respect to Top of Bank				Additional Information Concerning the Failure Location	Site Failure History Since 1954
W or W_{max} ft	W_{min} ft	Y ft	Z ft		
(14)	(15)	(16)	(17)	(18)	(19)
DISTRICT (Continued)					
				Large scour hole noted in the area of R-142-D. Scour area from R-179-D to R-184-D	One shear failure was reported at R-110-D in 1968. In 1972 one flow failure was reported at R-150-D and one shear failure was reported between R-177-D and R-181-D
525	--	400	-100		
200	--	200	+30		
275	75	200	0		
				The area between R-134-U and R-132-U was sloughed off with a 4-ft vertical face	One flow failure was reported at R-118-D in 1965. One shear failure at R-152-D and one flow failure at R-153-D were reported in 1967. Five flow failures were reported at R-136-U, R-91-U, R-103-D, R-174-D, and R-176-D in 1968. One flow failure was reported in 1969 at R-173-D. In 1970, three shear failures were reported at R-146-U, R-152-U, and R-172-D. One flow failure was reported at R-158-D in 1971. In 1972, one shear failure was reported at R-178-D. One flow failure at R-149-U was reported in 1973.
350	150	350	-60		
175	75	175	+15		
275	100	225	+25		
				A general scour area located along the entire reach between R-126-D and R-133-D and between R-158-D and R-173-D	Two shear failures were reported at R-97-D and R-101-D in 1961. One shear failure at R-86-D and two flow failures at R-77-D and R-135-D were reported in 1962. Two shear failures at R-75-D and R-84-D and one flow failure were reported in 1965. Two flow failures were reported at R-77-D and R-79-D in 1967. Five flow failures were reported at R-142-D, R-144-D, R-146-D, R-150-D, and R-154-D in 1968. Seven flow failures were reported in 1969 at R-104-D, R-132-D, R-139-D, R-145-D, R-146-D, R-150-D, and R-152-D. One flow failure was reported between R-87-D and R-90-D in 1970. Four flow failures were reported at R-163-D, R-158-D, R-155-D, and R-86-D and one shear failure was reported in 1971 at R-31-D. In 1972, two flow failures were reported between R-149-D and R-151-D and between R-168-D and R-169-D. In 1973, one shear failure was reported between R-80-D and R-82-D, and two flow failures were reported between R-130-D and R-132-D and between R-163-D and R-166-D
550	275	400	-15		
325	150	300	+20		
300	75	300	-90		
175	75	200	+50		
375	100	400	-150		
375	200	250	0		One flow failure was reported at R-63-D in 1971. In 1972, three shear failures were reported at R-54-D, R-58-D, and between R-66-D and R-70-D
				A general scour area behind the revetment from R-37-D to R-33-D	No previous failures along this reach
400	--	250	0		

TABLE 8

1975 Failures at Sites Previously Analyzed, Memphis and Vicksburg Distric

No.	Revetment Site Failure Location	Year Site Revetted	Date Failure First Noted	Date Failure Surveyed	Boring Data*						Location of Boring with Respect to Failure ft	Failure Type	Failure Dimensions and Positions with Respect to Top of Bank**				Additional I
					No.	Report in Which Analyzed	O ft	A ft	R Value	Prediction			W_{max} or W_{min} ft	W_{min} ft	Y ft	Z ft	
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)	(17)	
												MEMPHIS DISTRICT					
319	Kate Aubrey Tow-head, Tenn., 738 MAHP 477+00	1973	May	Jul	B-U-73	12-23	23	30+	0.76	Unstable	75 Land-ward	Flow	260	130	150	0	
102	Chute of Island No. 35, Tenn., 764 MAHP 14+00 U	1958	Dec, 74	Jun	4	12-10	10	8	--	Stable	350 US	Shear	150	--	150	0	The failure long with
7	Peters, Ark., 691 MAHP 181+00 to 184+00	1960	Jul	Jul	10	12-3	57	12+	--	No pre-diction	450 DS	Shear	350	--	300	+80	The failure a 5-ft blu
88	Oldtown Bend, Ark. 643 MAHP 323+00	1962	Jun	Jul	22	12-9	47	39	1.20	Stable	175 DS	Shear	230	--	200	+40	The failure a 10-ft bl
170	Island 63, Miss. 639 MAHP 152+00 to 156+00	1973 1974	Jun	Jul	B-G-73	12-23	0	49	--	Unstable	0	Flow	500	200	300	-200	The failure
												VICKSBURG DISTRICT					
139	Big Island, Ark. 597 MAHP R-43-D to R-46-D	1961	Jun	Jun	BI-1-62	12-13	28	15	1.87	Stable	50 US	Shear	300	--	250	-70	
74	Prentiss, Miss. 583 MAHP R-9-D to R-11-D	1958	Jun	Jun	PR-2-57	12-8	19	19	1.00	Stable	100 DS	Flow	350	130	200	-70	
91	Ozark, Ark. 578 MAHP R-94-D	1959	Jun	Jun	-11-58	12-9	38	49+	0.78	Unstable	250 US	Shear	125	--	125	+30	A large scou failure.
24	Catfish Point, Miss. 574 MAHP R-1-D to R-2-D	1958	Jun	Jun	C-5-54	12-4	28	55	0.51	Unstable	0	Flow	300	175	250	0	
57	Cypress Bend, Ark. 569 MAHP R-34-D to R-36-D	1956	Jun	Jul	C-4-56	12-7	25	30	0.83	Unstable	0	Flow	280	150	225	0	
45	Delta Point, La. 437 MAHP R-30-D	1961	Jul	Jul	D-1-55	12-6	38	47	0.81	Unstable	400 US	Shear	175	--	30	+75	A large scou 100 ft ups
185	Kemp Bend, La. 334 MAHP R-39-D to R-45D	1974	Aug	Nov	R-5-63	12-14	13	87	0.15	Unstable	0	Flow	250	100	200	+50	

* O = overburden thickness, ft; A = Zone A sand thickness, ft; R = ratio of overburden thickness to Zone A sand thickness (O/A).

** See figure wherein: W = width of bank failure; W_{max} = maximum width of flow failure; W_{min} = minimum width of flow failure; Y = distance from top of failure to W_{max} or W_{min}, ft; Z = landside.

and spect n	Z ft (17)	Additional Information Concerning the Failure Location (18)	Site Failure History Since 1954 (19)
			No previous failures along this reach
	0		
	0	The failure was first reported on 2 Dec 74 to be 100 ft long with an 8-ft bluff bank	One shear failure was reported in 1969 at 117+00. In 1970, a flow failure was also reported at 117+00
	+80	The failure was first reported to be 125 ft long with a 5-ft bluff bank	One shear failure was reported at 198+00 in 1961. In 1963, one shear failure was reported at 259+00
	+40	The failure was first reported to be 75 ft long with a 10-ft bluff bank	One shear failure was reported between 288+00 and 301+00 in 1964. Two shear failures at 313+50 and at 315+50 were reported in 1965. In 1969, one shear failure was reported at 283+25
	-200	The failure was first reported to be 200 ft long	See Table 7
	-70		One shear failure was reported in 1956 at R-7-U. In 1967, one shear failure was reported at R-7-U and one flow failure was reported at R-22-U. In 1962, two shear failures were reported at R-7-U and R-9-D. In 1963, a shear failure was again reported at R-7-U
	-70		Three shear failures were reported in 1963 at R-45-U, R-43-U, and R-19-D. In 1967, two shear failures were reported at R-30-U and R-32-U. There was one flow failure at R-32-D and one shear failure between R-31-D and R-28-D. In 1973, two flow failures were reported at R-63-U and between R-2-U and R-5-U
	+30	A large scour hole was noted 100 ft riverward of failure.	Three shear failures were reported at R-35-D, R-67-D, and R-81-D as described in Reports 12-12 and 12-20. One flow failure at R-89-D was reported in 1968 and one was reported at R-98-D in 1970. In 1973, one shear failure was reported at R-76-D
	0		Seven shear failures have occurred between R-10-D and R-16-D, R-8-D and R-12-D, R-14-D and R-24-D, R-5-D and R-29-D, at R-23-U and at R-7-U; and between R-24-D and R-44-D as described in Reports 12-7, -8, -9, -12, -13, -19, and -20. Four flow failures have occurred at R-1-U, R-32-D, R-42-D, and R-18-U as described in Reports 12-9, -12, and -20. One flow failure was reported between R-13-U and R-9-U in 1968 and one shear failure was reported in 1969 between R-24-U and R-22-U as described in Report 12-21
	0		Four shear failures were reported at R-51-D, R-41-D, and between R-20-D and R-23-D as described in Reports 12-8, 12-9 and 12-13. In 1968, four flow failures were reported at R-33-U, R-7-U, R-3-U, and R-33-D. Three shear failures were also reported in 1968 at R-18-D, R-23-D, and R-57-D
		A large scour area approx. 1200 ft long was noted 100 ft upstream	Two failure areas between R-4-U and R-3-D and between R-16-D and R-25-D were reported in 1973. Both breaks appeared to be from high water scour
			No previous failures along this reach

[illegible] (flow failure) or to toe of shear slide; Z = distance from top of slide to top of bank (+ if

Table 9

1976 Failures at Sites Previously Analyzed, Memphis and Vicksbu

Revetment Site No.	Failure Location	Year Site Revetted	Date Failure First Noted	Date Failure Surveyed	Boring Data* No.	Report in Which Analyzed	O ft	A ft	R Value	Prediction	Location of Boring with Respect to Failure ft	Failure Type	Failu Positi to W or W max ft
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)
													MEMPHIS DIST
54	St. Francis, Ark., 671 MAHP												
	443+00 to 441+00	1964	Jan	Aug	2-66	12-7	28	37	0.76	Unstable	0	Flow	325
													VICKSBURG DIS
181	Sara Island, Miss.-La., 502 MAHP												
	R-98-D	1967	Feb	Jun	1-67	12-20	34	21	1.62	Stable	0	Shear	175
	R-101-D to R-103-D	1967	Feb	Jun	2-67	12-20	24	16	1.60	Stable	250 DS	Shear	400
218	Baleshed-Stack Island, Miss.-La., 485 MAHP												
	R-160-D to R-162-D	1972	Jun	Jun	B-4-67U	12-21	8	21	0.38	Unstable	250 LS	Shear	225
121	Grand Gulf, Miss., 403 MAHP												
	R-106-D to R-107-D	1960	Jun	Jun	GG-17-60	12-11	59	32+	--	No prediction	250 US	Flow	200

* O = overburden thickness, ft; A = Zone A sand thickness, ft; R = ratio of overburden thickness to Zone A sand thickness (O/A).

** See Figure 2 wherein: W = width of shear failure; W_{max} = maximum width of flow failure; W_{min} = minimum width of flow failure; Z = distance from top of slide to top of bank (+ if riverside, - if landside).

Table 9

viously Analyzed, Memphis and Vicksburg Districts

diction	Location of Boring with Respect to Failure ft	Failure Type	Failure Dimensions and Position with Respect to Top of Bank** W or W_{max} ft	W_{min} ft	Y ft	Z ft	Additional Information Concerning the Failure Location	Site Failure History Since 1954
(11)	(12)	(13)	(14)	(15)	(16)	(17)	(18)	(19)
		MEMPHIS DISTRICT						
table	0	Flow	325	150	225	-15	Failure reported in Jan to be 250 ft long and had caved to within 15 ft of top of the bank. In April, caving had progressed to 5 ft behind top of bank	See Table 7
		VICKSBURG DISTRICT						
ble	0	Shear	175	--	75	+20	A general scour area noted from R-97-D to R-108-D	One shear failure at R-79-D was reported in 1970
ble	250 DS	Shear	400	--	180	0		
table	250 LS	Shear	225	--	200	0		One flow failure was reported between R-4-D and R-7-D in 1969. In 1970, two flow failures at R-80-U and R-67-D and one shear failure at R-67-U were reported
re- iction	250 US	Flow	200	100	200	-40	A large scour hole was noted about 400 ft upstream of the failure	See Table 7

to Zone A sand thickness (O/A).

= minimum width of flow failure; Y = distance from top of failure to W_{min} (flow failure) or to toe of shear slide;

2

Table 10

1977 Failures at Sites Previously Analyzed, Memphis and Vicksburg Districts

Revetment Site No. ①	Revetment Site Failure Location ②	Year Site Revetted ③	Date Failure First Noted ④	Date Failure Surveyed ⑤	Boring Data* No. ⑥	Report in Which Analyzed ⑦	O ft ⑧	A ft ⑨	R Value ⑩	Prediction ⑪	Location of Boring with Respect to Failure ft ⑫	Failure Type ⑬	Failure Dimensions and Position with Respect to Top of Bank** W or W_{max} ft ⑭	W_{min} ft ⑮	Y ft ⑯	Z ft ⑰	Additional Information
												MEMPHIS DISTRICT					
20	Porter Lake, Ark., 701 MAHP 276+00 to 278+00	1966	May	Jun	5	12-4	20	28+	0.71	Unstable	450 DS	Shear	250	--	200	0	Failure was first repo 10-ft bluff bank
170	Island 63, Miss., 639 MAHP 164+00 to 166+00	1973	Feb	Jun	D-G-73	12-23	20	29	0.69	Unstable	0	Flow	225	100	250	0	Failure was first repo with a 6- to 8-ft bl failure was reported to within 5 ft of th
												VICKSBURG DISTRICT					
147	Dennis, Miss., 612 MAHP R-42 to R-44	1960	May	Jun	D-5-63U	12-14	22	24	0.92	Stable	450 US	Shear	175	--	125	+30	Failure was located at ment that was placed
321	Smith Point, Miss., 603 MAHP																A general scour area w
	R-42-U	1971	May	Jun	SP-5-70U	12-22	43	24	1.79	Stable	125 DS	Shear	200	--	100	+70	
	R-46-U and R-45-U	1971	May	Jun	SP-6-70U	12-22	34	19	1.79	Stable	400 US	Shear	175	--	75	+10	
56	Klondike, Ark., 590 MAHP R-54-U to R-52-U	1971	May	Jun	KR-5-71	12-22	29	32	0.91	Stable	200 DS	Shear	225	--	200	0	
193	Mounds, Miss., 560 MAHP R-124-D and R-125	1973	May	Jun	M-4-72U	12-23	19	68	0.28	Unstable	0	Flow	200	100	175	0	A general scour area of the failure
343	Togo Island, La., 415 MAHP																
	R-1-D to R-3-D	1975	Jun	Jun	T-6-74	12-24	0	83	--	Unstable	150 DS	Flow	225	125	225	-20	
	R-16-D and R-17-D	1975	Jun	Jun	T-7-74	12-24	0	91+	--	Unstable	200 US	Flow	300	150	200	0	

* O = overburden thickness, ft; A = Zone A sand thickness, ft; R = ratio of overburden thickness to Zone A sand thickness (O/A).

** See Figure 2 wherein: W = width of shear failure; W_{max} = maximum width of flow failure; W_{min} = minimum width of flow failure; Y = distance from top of failure to bank (+ if riverside, - if landside).

Table 10

Analyzed, Memphis and Vicksburg Districts

Failure Dimensions and Position with Respect to Top of Bank**					
W or W_{max} ft (14)	W_{min} ft (15)	Y ft (16)	Z ft (17)	Additional Information Concerning the Failure Location (18)	Site Failure History Since 1954 (19)
DISTRICT					
				Failure was first reported to be 75 ft long with a 10-ft bluff bank	One shear failure was reported at Sta 299+00 in 1971
250	--	200	0		
				Failure was first reported to be 175 to 200 ft long with a 6- to 8-ft bluff bank. Later in May the failure was reported to be 225 ft long and caved to within 5 ft of the top of bank	See Tables 7 and 8
225	100	250	0		
C DISTRICT					
				Failure was located at the upstream end of the revetment that was placed in 1960	No previous failures reported
175	--	125	+30		
				A general scour area was noted from R-47-U to R-40-U	Three shear failures were reported in 1958 between R-1-U and R-1-D, between R-14-D and R-18-D, and between R-22-D and R-25-D. One flow failure was reported in 1961 between R-29-D and R-33-D. In 1971 one flow failure was reported at R-10-U and two shear failures were reported at R-4-D and R-18-D. In 1972, four flow failures were reported at R-20-U, R-17-U, R-14-U, and R-22-D and three shear failures were reported at R-10-U, R-1-U, and at R-20-D
200	--	100	+70		
175	--	75	+10		
225	--	200	0		Two shear failures were reported at R-2-U and between R-29-D and R-31-D in 1958. Two shear failures were reported in 1959 between R-24-D and R-29-D and at R-33-D. In 1960 one shear failure was reported between R-22-D and R-29-D. Three shear failures were reported at R-40-D, R-57-D, and R-89-D, and two flow failures were reported at R-56-D and R-60-D in 1962. In 1965 two flow failures were reported at R-73-D and R-84-D and one shear failure at R-89-D. In 1966 one shear failure was reported between R-30-D and R-34-D. One shear failure was reported at R-4-U in 1967. In 1971, one shear failure was reported at R-50-U
				A general scour area behind the revetment downstream of the failure	One shear failure was reported in 1967 at R-12-D. Two flow failures were reported in 1969 at R-60-D and R-67-D. Three flow failures were reported in 1973 between R-70-D and R-72-D, between R-73-D and R-75-D, and at R-76-D
200	100	175	0		
					No previous failures reported
225	125	225	-20		
300	150	200	0		

**; Y = distance from top of failure to W_{min} (flow failure) or to toe of shear slide; Z = distance from top of slide to top of

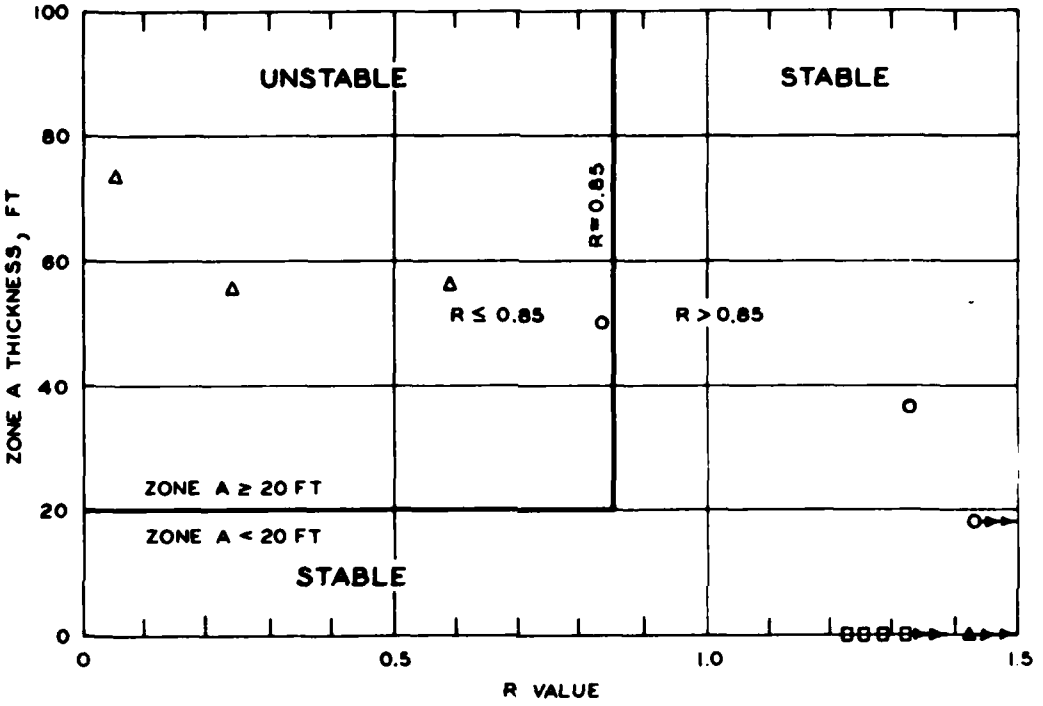
Table 11

Summary of Soil Conditions at Locations Where Flow Failures Occurred in Areas Predicted to be Stable

Failure Location*	Date of Failure	Soil Conditions: Distance to Nearest Boring ft	Soil Conditions: Overburden Thickness ft	Soil Conditions: Zone A Sand Thickness ft	R Value
Harbert Point, Miss., 675 MAHP					
Range 154+00 to 156+00	1974	100	37	0	--
Fair Landing, Ark., 633 MAHP					
Range 259+00 to 262+00	1965	250	26	28	0.93
Ludlow, Ark., 625 MAHP					
Sta 38+50 to 40+00	1965	0	40	37	1.08
Sta 60+00 to 62+00	1967	200	48	8	6.00
Prentiss, Miss., 583 MAHP					
Range 9-D to 11-D	1975	100	19	19	1.00
Arkansas City-Yellow Bend, Ark., 551 MAHP					
R-193-D to R-195-D } one boring location**	1968	250	49	39	1.40
R-197-D to R-198-D } one boring location**	1973	100			
Island 88 (Worthington), Miss., 514 MAHP					
R-37-D	1967	50	9	5	1.80
R-49-D }	1969	200			
R-45-D } one boring location**	1970	250	9	0	--
R-50-D }	1970	375			
Cracraft, Ark., 513 MAHP					
R-85-U to R-84-U	1969	300	73	29	2.50
R-64-U to R-67-U	1970	450	38	37	1.02
Kentucky Bend, Miss., 519 MAHP					
R-67-D	1966	300	38	30	1.27
R-68-D to R-69-D	1966	450	43	25	1.72
R-54-D to R-56-D	1969	0	45	33	1.36
Baleshed-Stack Island, Miss., 491 MAHP					
R-73-U to R-71-U	1973	200	40	20	2.00
Fitler-Cottonwood, Miss., 474 MAHP					
R-4-D to R-8-D	1971	250	35	40	0.88
Belle Island, La.-Miss., 459 MAHP					
R-85-D to R-91-D	1973	0	0	15	--
Marshall Browns Point, Miss. and La., 447 MAHP					
R-4-U to R-2-U }	1955	0			
R-2-U to R-0 } one boring location**	1956	0	40	39	1.02
R-3-U }	1958	150			
Lake Karnac, Miss., 419 MAHP					
R-111-D to R-116-D	1969	0	13	5	2.60
Browns Field, La., 388 MAHP					
R-63-D	1971	100	64	60	1.07

* MAHP listed corresponds to mileage given in Table 6 and is not necessarily the exact location of the failure; the exact location of the failure is indicated by the range or station listed.

** Where multiple failures are located in the area of the same boring location, only one violation of criteria is considered.



LEGEND

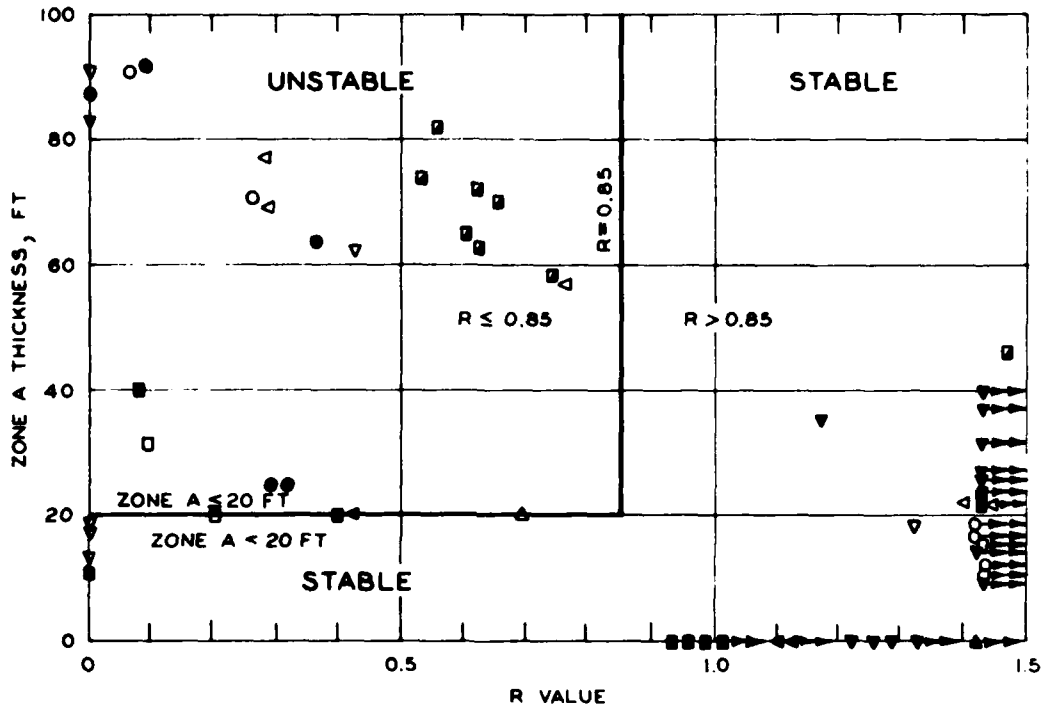
	LOCATION	SITE NO.	NO. BORING	NO PREDICTION POSSIBLE
O	WARFIELD POINT, MISS.	347	4	1
Δ	GOODRICH, LA	79	4	--
□	NATCHEZ FRONT, MISS.	63	4	--

NOTE: ▶▶ R VALUE GREATER THAN 1.5
▲▶▶ 1 BORING ZERO ZONE A THICKNESS
■▶▶ 4 BORINGS ZERO ZONE A THICKNESS

ZONE A THICKNESS VERSUS R VALUE

VICKSBURG DISTRICT
1975 BORINGS

PLATE 1



LEGEND

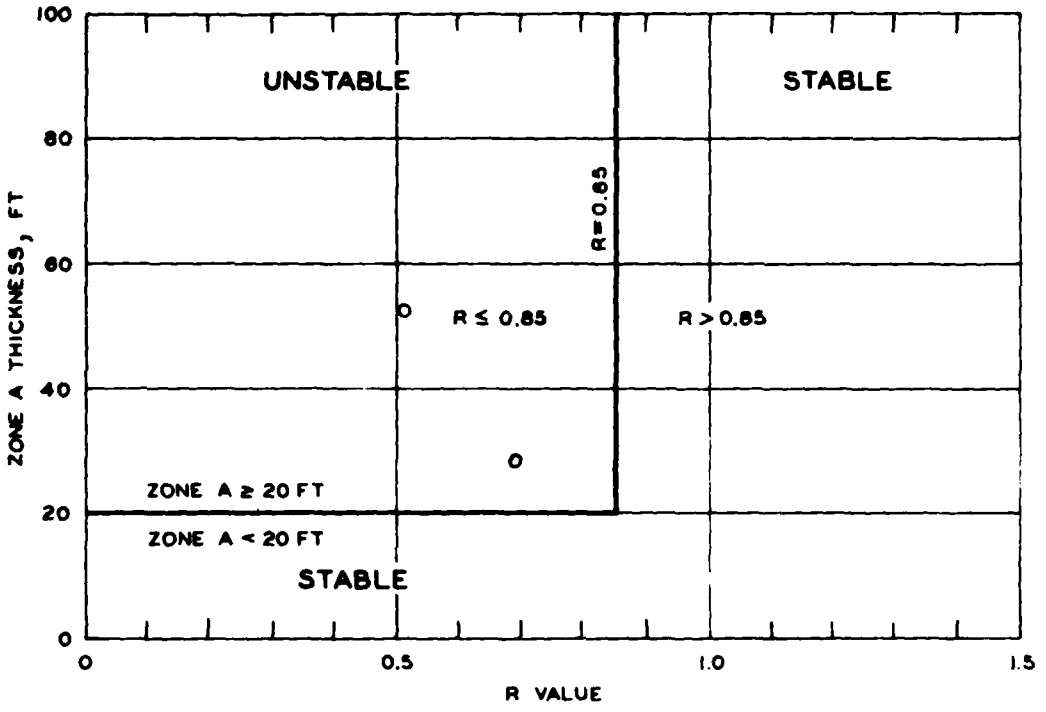
	LOCATION	SITE NO.	NO. BORING	NO PREDICTION POSSIBLE
O	SARAH ISLAND, MISS.	181	6	2
Δ	MAYERSVILLE, MISS.	217	3	1
□	BALESHED-STACK ISL., LA	218	2	--
▽	TOGO ISLAND, LA	343	7	1
■	GRAND GULF, MISS.	198	4	--
●	GOLDBOTTOM, MISS.	107	7	2
▼	RAILROAD, LANDING, MISS.	344	13	1
◁	GLASSCOCK CUTOFF, MISS.-LA	345	20	12
◧	DEAD MAN'S BEND, MISS.	346	27	16
⊖	BOUGERE BEND, LA	132	4	2

NOTE: ➧R VALUE GREATER THAN 1.5
Δ➧1 BORING ZERO ZONE A THICKNESS
▼➧4 BORINGS ZERO ZONE A THICKNESS
◁➧2 BORINGS ZERO ZONE A THICKNESS
◧➧4 BORINGS ZERO ZONE A THICKNESS

ZONE A THICKNESS VERSUS R VALUE

VICKSBURG DISTRICT
1974 BORINGS

PLATE 2



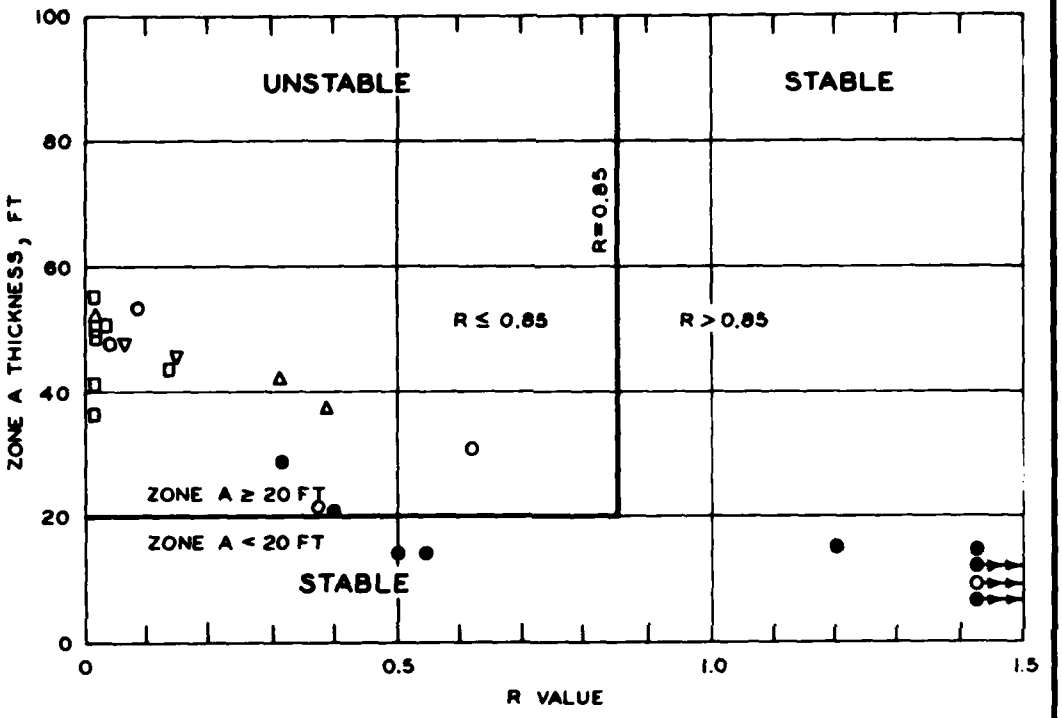
LEGEND

LOCATION	SITE NO.	NO. BORINGS	NO PREDICTION POSSIBLE
O ISLAND NO. 8, KY	189	3	1

ZONE A THICKNESS VERSUS R VALUE

MEMPHIS DISTRICT
1976 BORINGS

PLATE 3



LEGEND

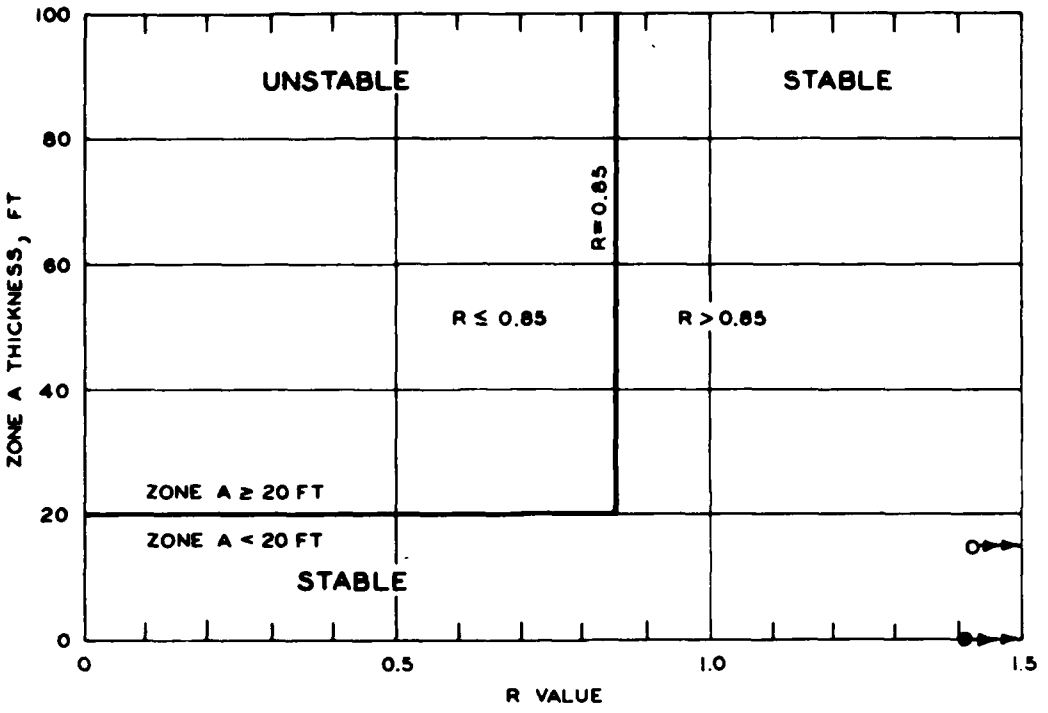
LOCATION	SITE NO.	NO. BORING	NO PREDICTION POSSIBLE
○ WOLF ISLAND, KY	81	6	1
□ OBION-TAMM, TENN.	134	7	--
△ KATE AUBREY, TENN.	319	3	--
▽ BLAKER TOWHEAD, TENN.	176	2	--
● FAIR LANDING, ARK	70	9	1

NOTE: →► R VALUE GREATER THAN 1.5

ZONE A THICKNESS VERSUS R VALUE

MEMPHIS DISTRICT
1975 BORINGS

PLATE 4



LEGEND

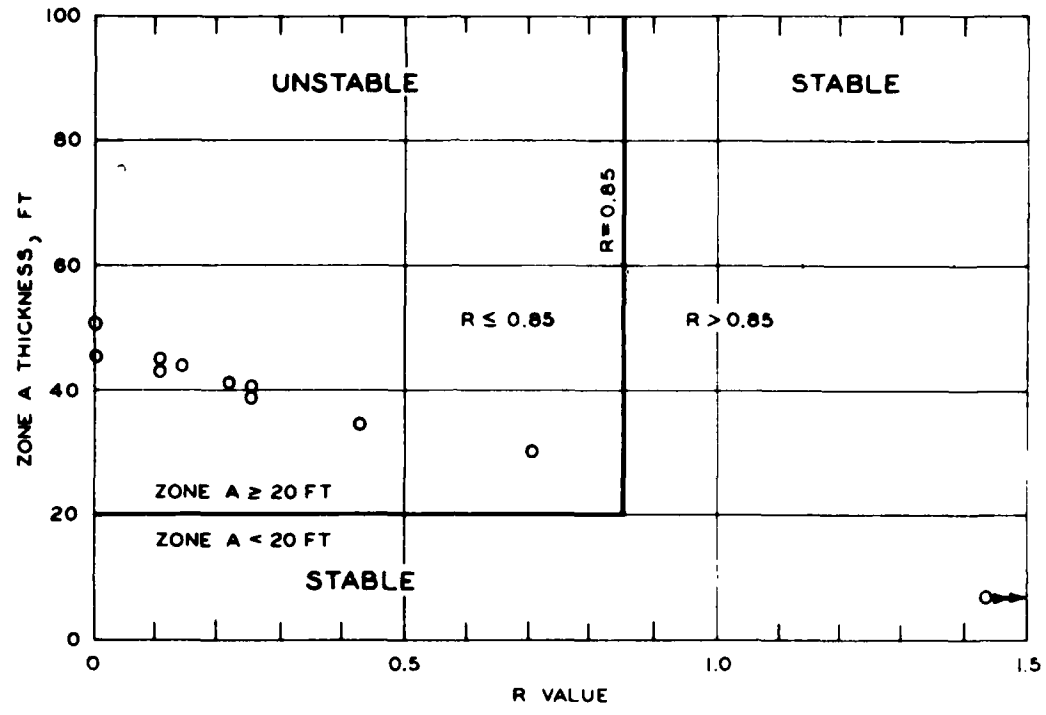
	LOCATION	SITE NO.	NO. BORINGS	NO PREDICTION POSSIBLE
O	GRAND GULF, MISS	185	7	1

NOTE: →→R VALUE GREATER THAN 1.5
●→→5 BORINGS ZERO ZONE A SAND THICKNESS

ZONE A THICKNESS VERSUS R VALUE

VICKSBURG DISTRICT
1976 BORINGS

PLATE 5



LEGEND

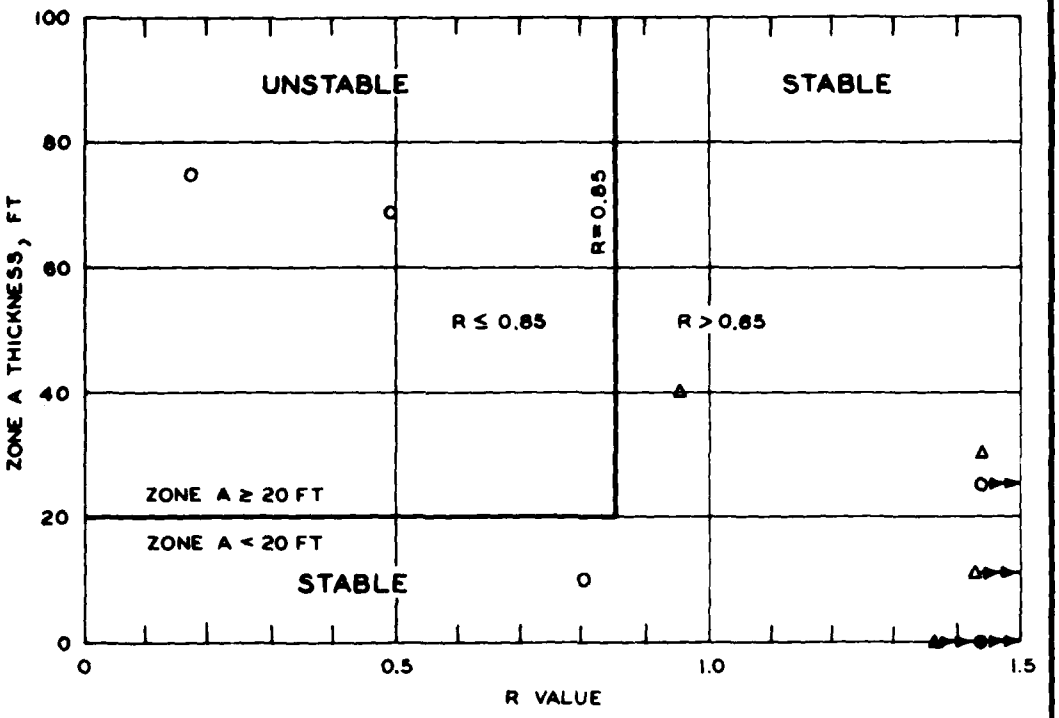
LOCATION	SITE NO.	NO. BORINGS	NO PREDICTION POSSIBLE
O NEW MADRID BAR, MO.	213	12	1

NOTE: O→ R VALUE GREATER THAN 1.5

ZONE A THICKNESS VERSUS R VALUE

MEMPHIS DISTRICT
1977 BORINGS

PLATE 6



LEGEND

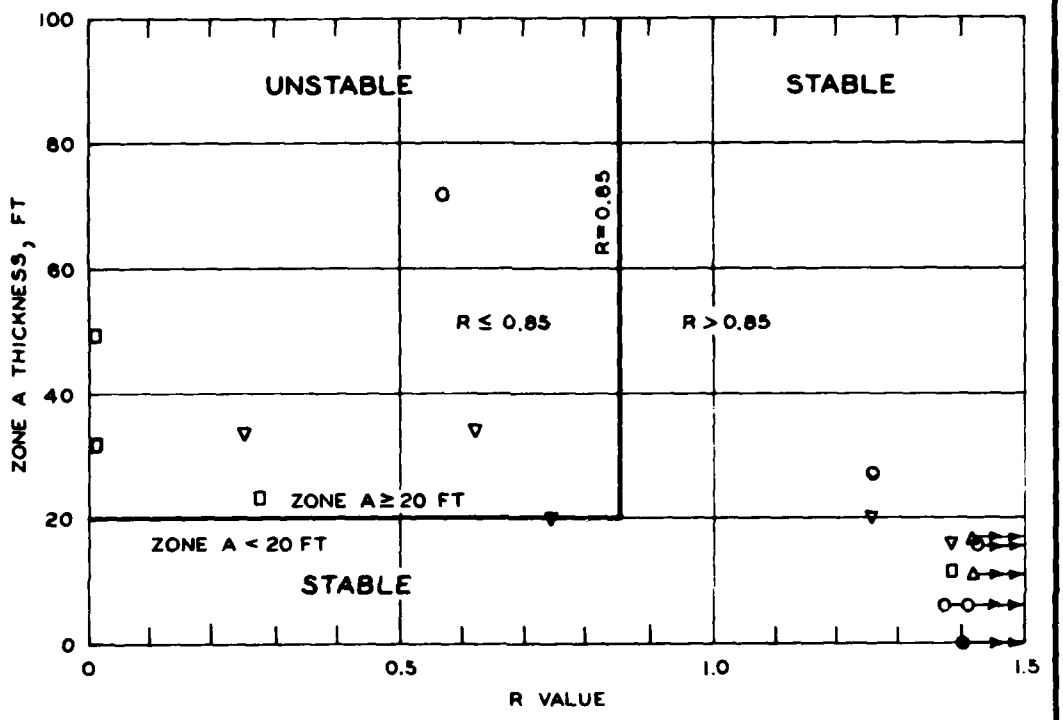
	LOCATION	SITE NO.	NO. BORINGS
O	DENNIS, MISS.	147	5
Δ	EUTAW-MOUNDS, MISS.	193	8

NOTE: ●▶1 BORING ZERO ZONE A SAND THICKNESS
▲▶▶▶5 BORINGS ZERO ZONE A SAND THICKNESS

ZONE A THICKNESS VERSUS R VALUE

VICKSBURG DISTRICT
1977 BORINGS

PLATE 7



LEGEND

	LOCATION	SITE NO.	NO. BORINGS
O	CAIRO, ILL	341	5
Δ	HICKMAN-REELFOOT, KY	236	2
□	ISLAND NO. 9, KY	342	4
▽	HARBERT POINT, MISS.	21	5

NOTE: ▶▶ R VALUE GREATER THAN 1.5
● ▶▶ 1 BORING ZERO ZONE A THICKNESS

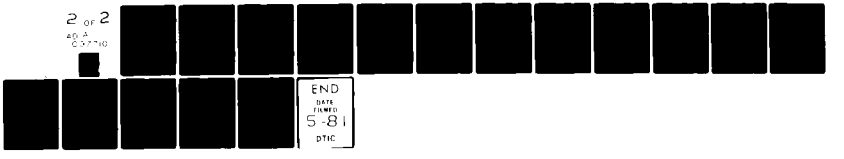
ZONE A THICKNESS VERSUS R VALUE

MEMPHIS DISTRICT
1974 BORINGS

PLATE 8

AD-A097 710 ARMY ENGINEER WATERWAYS EXPERIMENT STATION VICKSBURG MS F/G 8/13
VERIFICATION OF EMPIRICAL METHOD FOR DETERMINING RIVERBANK STAB--ETC(U)
FEB 81 A R GANN
UNCLASSIFIED WES-MP-S-78-5-19 NL

2 OF 2
AD A 097710



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Appendix A: Revetment Failures of 1974 Through 1977 Not Analyzed in Main Report

1. The bank failures described in this appendix were reported from 1974 through 1977. These failures could not be evaluated on the basis of the criteria for stability against flow slides, either because the type of failure could not be established or because there was inadequate information on the soil stratification within 500 ft of the failure. In the following paragraphs, the failures are grouped under these two categories.

Type of Failure Not Established

2. In some cases, it is not possible to identify the nature of a revetment failure by use only of the contour maps and cross sections provided by the Districts. The time lapse between the occurrence of a failure and the survey of the scar may be several months. The failure shape may be modified significantly by scour during this period. Therefore, the characteristic shape of a flow or shear failure (see Figure 2, main text) may not be discernible. Furthermore, it may be that the revetment break was actually caused by severe localized scour, i.e., an erosional case not involving sliding or flowing of the soil. The failures described below are attributed to the latter conditions, but it cannot be said that they are not actually flow or shear failures obliterated by the apparent scour. Borings more than 500 ft away are not mentioned.

1974 Failures

3. Heloise, Tenn. (site 5, 830 MAHP). The break between stations 167+00 and 180+00 was first reported in September 1973 to be 180 ft in length with a 3-ft bluff bank. The site was surveyed in May 1974, and the break was then approximately 1250 ft in length. Two borings, 8 and 9, made in 1953, indicated a no-prediction area since the depth of the zone A sand was not fully penetrated. The area was revetted in 1953. The configuration of this failure area suggests a

general scour; however, the failure may actually have been a shear- or flow-type failure that was obscured by subsequent scour, since the time lapse from the first reporting to the final action was over 8 months.

4. Knowlton, Ark. (619 MAHP). One failure at station 111+00 was first reported in July to have a hanging mattress over a portion of the area and a 6-ft bluff bank over the remaining area. When the sight was surveyed in August, the break had progressed to within about 10 ft of the top of the bank and was approximately 200 ft in length. This break appeared to have been caused by general scour. The area was revetted in 1954, 1955, and 1957.

5. Goldbottom, Miss. (site 107, 391 MAHP). The failure area between R-166-D and R-173-D was first reported in July and surveyed in August where revetment was first placed in 1963. This failure appears to have been caused by overbank scour behind the revetment and is not considered to be a stability failure.

6. Browns Field, La. (site 314, 390 MAHP). The failure area between R-69-O and R-84-O was first reported in July and surveyed in September where revetment was placed in 1970 and 1971. The failure area was approximately 2200 ft in length and appears to have been caused by scour behind the revetment. Boring BF-12-70U located at R-73-D and Boring BF-13-71U located at R-79-D both indicated a no-prediction area since the depth of the zone A sand was not penetrated. This failure area also appears not to be a stability problem.

7. Palmetto, Miss. (site 243, 324 MAHP). Three failures were reported in June along this reach and were surveyed in July. The break between U-103 and U-93 was approximately 250 ft long and extended to the top of the graded bank. The failure between U-87 and U-77 was approximately 750 ft long with an area between U-86 and U-83 caved about 75 ft beyond the top of the graded bank approximately 350 ft in length. A small break was reported at ·32 approximately 125 ft in length. All three failures appeared to have been caused by local scour.

8. Arbroth, La. (250 MAHP). One failure was reported in June and was surveyed in August between ranges D-23 and D-26. A second failure was reported between D-53 and D-54. Both failures appear to

have been caused by scour and are not considered to be a stability problem.

1975 Failures

9. Miller Bend, Miss. (site 127, 544 MAHP). The failure between R-130-D and R-132-D was reported and surveyed in July where revetment was placed in 1941. This break was located at the junction of DIKE-L-4 and the revetment and appeared to be caused by scour.

10. Fitler Bend, Miss. (475 MAHP). One failure between R-144 and R-146 was reported and surveyed in July where revetment was placed in 1947 and again in 1968. Asphalt mix was placed on the bank behind the revetment in 1948. This failure area, approximately 300 ft in length, appeared to have been caused by scour and is not considered to be a stability failure.

11. Goodrich, La. (site 174, 469 MAHP). Two failures were reported between R-112-U and R-110-U and between R-105-D and R-114-D. Both failures appeared to have been caused by scour action. The failure area between R-112-U and R-110-U was approximately 350 ft in length with the break between R-105-D and R-114-D approximately 1400 ft long.

12. Delta Point, La. (site 45, 437 MAHP). This failure area between R-4-D and R-16-D was reported and surveyed in July where revetments had been placed in some areas as far back as in 1882 and replaced or repaired through the years until 1973. This failure also appears to have been caused by scour as indicated by a large scour hole at R-4-D. Although there were no borings in the failure area, the area adjacent and downstream showed two borings, both of which indicated an unstable condition.

13. Lake Karnac, La. (site 144, 419 MAHP). One large failure area between R-109-D and R-127-D was reported and surveyed in July where revetment was placed in 1962 and again in 1969. This failure area appears to be one of general scour approximately 3000 ft in length and at one point about 700 ft behind the revetment. Three borings were located in the failure area. Boring LKR-15-62 located at

R-112-D and Boring LKR-17-62 located at R-126-D, both show a stable condition, while Boring LKR-16-62 located at R-119-D indicates an unstable condition. This failure is not considered a stability problem.

14. Point Pleasant, La. (site 163, 414 MAHP). A large failure area between R-111-D and R-127-D (approximately 2300 ft in length) was reported in July and surveyed in August where revetment was placed in 1966, 1967, and 1968. This failure area appeared to have been caused by scour; however, the contours indicated in several areas what may have been flow and shear failures obscured by subsequent scour. Boring O-10-63U located at R-112-D indicated a stable condition. Boring D-9-63-U located at R-119-D showed a no-prediction area since the depth of the zone A sand was not penetrated. Boring D-8-63 located at R-125-D showed an unstable area.

15. Grand Gulf, Miss. (site 183, 409 MAHP). One failure between R-132-U and R-129-U was reported in July and surveyed in August where revetment was placed in 1968. The configuration of this failure suggests a general scour; however, the contours between R-131-U and R-130-U indicate the fan shape of a possible flow failure that was later obscured by scour. Boring G-10-65U located at R-131-U indicated an unstable area.

16. Kempe Bend, La. (site 165, 384 MAHP). One failure located between R-28-U and R-25-U was reported and surveyed in August where revetment was placed in 1974. This break had some characteristics of what may have been a flow failure that was obscured by subsequent scour.

17. Natchez Front, Miss. (site 63, 363 MAHP). This failure, located between R-32-D and R-34-D, was reported and surveyed in July where revetment was placed in 1934. This break was approximately 200 ft long and appeared to have been caused by scour. Boring NF-1-75 located at R-34-D indicated a stable area.

18. Coochie, La. (Black Hawk Bend, site 336, 316 MAHP). One failure between D-11 and D-17 was first reported in June and surveyed in July. This failure was approximately 400 ft long and appeared to

have been caused by scour. Boring R-314.2-G, located at D-16, indicated a no-prediction area since the depth of the zone A sand was not fully penetrated.

19. Harbert Point, Miss. (site 21, 275 MAHP). Two failures were reported in July and surveyed in August at ranges 130+00 and 136+00 where revetment was placed in 1953. Boring 4-53, located at range 133+25, showed an unstable area. Both failures appeared to have been caused by scour; however, the failures may actually have been a shear- or flow-type failure that was obscured by subsequent scour.

20. Allendale, La. (site 246, 236 MAHP). Two failures between U-33 and U-38 and between U-39 and U-51 were reported in June and surveyed in July where revetment was placed in 1961 and repaired in 1973. The break between U-33 and U-38 was approximately 600 ft in length, while the break between U-39 and U-51 was about 1300 ft long. Both breaks appeared to have been caused by scour.

21. White Castle, La. (site 286, 193 MAHP). Two failures were reported between D-9 and D-11 and between D-19 and D-26 in June and surveyed in July where revetment was last placed in 1974. The failure between D-9 and D-11 was about 200 ft in length. The break between D-19 and D-26 was approximately 900 ft. Both failures appear to have been caused by local scour.

1976 Failures

22. Island 63, Miss. (site 170, 638 MAHP). Two failures were reported in January at ranges 173+00 and 179+00 where revetment was placed in 1964 and again in 1973. At range 173+00, the failure was reported to be 300 ft long and caved to the top of the bank. At range 179+00, the failure was reported to be 510 ft long and had caved to 30 ft behind the top of the bank. Later in January, it was reported that only about 50 ft of the revetment was intact between the two failures. In April, the area was observed and the failures were joined, forming one failure 950 ft long. When the site was surveyed in August, the configuration of the failure area suggested a general scour; the failure may actually have been a shear- or flow-type failure

that was obscured by subsequent scour since the time lapse from the first reporting to the final survey was over 7 months.

23. Milliken Bend, La. (site 10, 545 MAHP). One failure between R-44-0 and R-54-0 was reported and surveyed in June where revetment was placed in 1923 and 1924. The failure area was approximately 800 ft long and appeared to have been caused by scour and is not considered a stability problem.

1977 Failures

24. Kempe Bend, La. (site 165, 383 MAHP). One failure between R-5-D and R-7-D was reported and surveyed in July where revetment was placed in 1950. This break was approximately 160 ft long and extended from the top of the bank to a point some 300 ft riverward. This failure appeared to have been caused by scour; however, the contours indicated what may have been a shear failure obscured by subsequent scour.

Inadequate Boring Data

1974 Failures

25. La Forge, Mo. (site 29, 891 MAHP). One failure at station 290+00 was first reported on 3 May to be 150 ft long and to have caved to the top of the bank. When the site was surveyed on 24 May, the break had the typical fan shape of a flow failure with the top width of 250 ft as opposed to the neck width of only 150 ft. The failure extended from the top of the bank to a point about 275 ft riverward. No prediction could be made about the stability of this area since no boring was within 500 ft of the area.

26. Lee Towhead, Mo. (site 65, 858 MAHP). The failure at station 76+00 was first reported in July and surveyed three days later where revetment was placed in 1962. The break was classified as a shear failure with a width of 250 ft and extending from within 40 ft of the top of the bank to 150 ft in a riverward direction. No boring was located within 500 ft.

27. Island No. 18, Mo. (834 MAHP). One failure at station 276+00 was first reported in July to be 75 ft long with a 2-ft bluff bank. One week later, the break was reported to be 150 ft long. When the site was surveyed on 1 August, the break had the typical U-shape of a shear failure, 200 ft in length and extending some 150 ft riverward and to within 70 ft of the top of the bank. This area was last revetted in 1967. No boring was located within 500 ft.

28. Mhoon Bend, Miss. (685 MAHP). Four failures were reported in May and surveyed in May and June 1974 where revetment had been placed in 1952. These failures were located at stations 256+00, 286+00, 324+00, and 328+00. The failure at station 256+00 was situated 40 ft from the top of the bank and extended 150 ft riverward. It was classified as a shear failure since it exhibited a U-shape with a fairly constant width of 175 ft. The failure at station 324+00 was situated 100 ft from the top of the bank and extended 200 ft riverward. This break was classified as a flow failure since it had a top width of 150 ft and a neck width of only 75 ft. The scar at station 328+00 was thought to be a shear failure since it exhibited a U-shape with a constant width of 200 ft. It was situated 75 ft from the top of the bank and extended some 175 ft in a riverward direction. The break at station 286+00 appeared to have been one of scour, approximately 200 ft in length. No judgment could be made about the stability of these locations since no boring was within 500 ft of any of them.

29. Walnut Bend, Ark. (678 MAHP). One failure at station 169+00 was first reported in March 1974 to be 50 ft in length. When the site was surveyed in May, the break was then 250 ft long and had caved to within 10 ft of the top of the bank. This break exhibited the U-shape and constant width of a shear failure and extended some 275 ft riverward. There was no boring located within 500 ft.

30. Flower Lake, Miss. (667 MAHP). Two failures were reported on 10 May and surveyed on 21 May 1974 where revetment was placed in 1964 and 1965. The failure at station 192+00 was from the top of the bank and extended about 120 ft riverward. The U-shape of a shear

failure was evident from the fairly constant width of 150 ft. The second failure at station 204+00 was also from the top of the bank and extended some 200 ft riverward. This break was also classified as a shear failure with a constant width of 175 ft. Large scour holes were noted approximately 300 ft riverward of each failure. No prediction regarding stability of this area could be made since no boring was within 500 ft.

31. Fair Landing, Ark. (site 70, 632 MAHP). One failure at station 252+00 was first reported in July and surveyed in August where revetment was placed in 1957 and again in 1965. The failure was situated 10 ft beyond the top of the bank and extended some 250 ft riverward. It was classified as a flow failure since it had a top width of 220 ft and a neck width of only 100 ft. No boring was located within 500 ft.

32. Cessions Towhead, Ark. (615 MAHP). One failure at station 168+00 was first reported on 21 July to be from 150 to 200 ft in length and to have caved to the top of the bank. When the site was surveyed in August, contours indicated a shear failure with a maximum width of 250 ft extending approximately 150 ft riverward and 30 ft beyond the top of the bank. No borings were located within 500 ft; therefore, no prediction as to stability could be made.

33. Kempe Bend, La. (site 165, 384 MAHP). Two failures were reported and surveyed in September 1974. The failure located between R-26-U and R-23-U was from the top of the bank and extended some 250 ft riverward. This break had the typical fan shape of a flow failure, with a maximum width of 350 ft, while the neck width was only 200 ft. The second failure located between R-5-U and R-2-U also had the typical fan shape of a flow failure, with the top width of 400 ft as opposed to the neck width of only 175 ft. The failure extended from within 90 ft of the top of the bank to a point about 300 ft riverward. No boring was located within 500 ft of either failure.

34. Gibson, La. (site 186, 371 MAHP). Three failures were reported and surveyed in July 1974 at R-5-U between R-11-D and R-13-D

and between R-20-D and R-24-D. The failure at R-5-U appeared to be a flow failure with a maximum width of 225 ft and a neck width of only 90 ft. It extended from within 100 ft of the top of bank and extended some 125 ft riverward. The second break, between R-11-D and R-13-D, had the U-shape of a shear failure with a maximum width of 200 ft. It extended some 175 ft riverward and was within 40 ft of the top of the bank. The third failure, between R-20-D and R-24-D, had the typical fan shape of a flow failure with a maximum width of 400 ft and a neck width of 120 ft. It extended some 250 ft riverward and to within 10 ft of the top of the bank. No borings were located within 500 ft; therefore, no prediction as to stability could be made.

35. Coochie, La. (Black Hawk Bend, site 336, 316 MAHP). One failure between D-25 and D-27 was first reported in June and surveyed in July where revetment was placed in 1962 and again in 1969. The contours on the record map furnished indicated a possible shear failure approximately 250 ft long and extending from within 25 ft on the top of the bank to a point some 100 ft riverward. No boring was located within 500 ft of the area.

36. Arrow Bend, La. (271 MAHP). Three failures were reported in July between D-55 and D-57, between D-34 and D-38, and between D-24 and D-26. The only contour maps furnished for this site were the "After Sinking Survey, November 1974." Therefore, the type of failures could not be determined. No borings were located in this area.

1975 Failures

37. La Forge, Mo. (site 29, 890 MAHP). One failure at R-293+00 was first reported in April to be 200 ft long and caved to the top of bank. When the site was surveyed in June, the break was 250 ft long and extended from the top of the bank to about 130 ft riverward. The contours indicated a shear failure. No boring was located in the area.

38. Island No. 18, Mo. (833 MAHP). The failure, approximately 250 ft downstream of the ferry ramp at R-319+00, was reported and surveyed in July. The failure was first reported to be 100 ft long.

When the site was surveyed, the break was 150 ft long and had caved to the top of the bank, extending some 50 ft riverward. The contours indicated a shear failure, probably aided by scour. No borings were located within 500 ft.

39. Chute of Island No. 35, Tenn. (site 84, 764 MAHP). One failure at station 100+00 was first reported in May to be 160 ft long and caved to the top of the bank. When the site was surveyed in June, the break had caved 80 ft beyond the top of the bank and extended some 200 ft riverward. The contours indicated the typical U-shape of a shear failure. Revetment was placed along this reach in 1954. No borings were located within 500 ft of the failure.

40. Cow Island, Ark. (712 MAHP). One failure between station 198+00 and 204+00 was first reported in April where revetment was placed in 1950 and 1954. The break was reported to be 300 ft long and to extend beyond the top of the bank. When the site was surveyed in August, the failure had increased to 400 ft long and extended some 200 ft beyond the top of the bank. This break appeared to have been caused by scour.

41. Walnut Bend, Ark. (679 MAHP). One failure at station 145+00 was first reported in April and surveyed in July where revetment was placed in 1953. The break had the typical fan shape of a flow failure with a maximum width of 400 ft and a neck width of only 200 ft. It extended some 50 ft beyond the top of the bank and 350 ft in a riverward direction. A second failure was reported in July at station 182+00 and also surveyed in July where revetment had been placed in 1953. This failure appeared to be a shear failure 175 ft long and extending from within 50 ft of the top of the bank to a point 150 ft riverward. No prediction regarding stability of this area could be made since no boring was within 500 ft of either failure.

42. Flower Lake, Miss. (667 MAHP). This failure at station 210+00 was first reported in June to be 150 ft long with an 8-ft bluff bank. The site was surveyed in July, and the break was found to be 200 ft long and extending from a point 100 ft riverward to within

20 ft of the top of the bank. The contours indicated the typical U-shape of a shear failure. A large scour hole was noted just upstream and about 400 ft riverward. Revetment was placed in this area in 1969.

43. Klondike, Ark. (site 56, 588 MAHP). One failure was reported and surveyed in June at R-19-D where revetment was placed in 1957. This break had the typical U-shape of a shear failure with a maximum width of 175 ft and extended from within 30 ft of the top of the bank to a point approximately 150 ft riverward.

44. Goodrich, La. (site 79, 465 MAHP). Two failures between R-81-D and R-84-D and between R-97-D and R-99-D were reported and surveyed in July 1975. The break between R-81-D and R-84-D had the typical fan shape of a flow failure with a maximum width of 350 ft and a minimum or neck width of 175 ft. The break extended from a point approximately 225 ft riverward to within 50 ft of the top of the bank. Revetment was placed in this area in 1971. The second failure, between R-97-D and R-99-D, also had the fan shape of a flow failure. It had a maximum width of 275 ft and a neck width of 150 ft. It extended from 400 ft riverward to a point 100 ft beyond the top of the bank. Revetment was placed in this area in 1951 and again in 1973. No borings were located within 500 ft of either failure; therefore, no prediction of stability could be made.

45. Milliken Bend, La. (site 97, 449 MAHP). One failure at R-172-D was reported in July and surveyed in August where revetment was placed in 1954. The contours of this break indicated a shear failure approximately 220 ft long and extending some 150 ft riverward and to a point about 40 ft from the top of the bank. No boring was located within 500 ft.

46. Morville, La. (site 187, 356 MAHP). One failure between R-29-D and R-34-D was reported and surveyed in August where revetment was placed in 1950 and again in 1961. This break was a shear failure approximately 275 ft long and extended from within 40 ft of the top of the bank to a point about 250 ft riverward. No borings were located within 500 ft of the failure.

47. Arrow Bend, La. (271 MAHP). One failure between D-4 and D-8 was reported and surveyed in June where revetment was placed in 1954. The break was approximately 450 ft long and appeared to have been caused by scour. No borings were located in this area.

1976 Failures

48. Island 9, Ky.-Tenn. (site 342, 905 MAHP). One failure at range 135+00 was first reported in February and surveyed in April where revetment was placed in 1955 and 1956. The failure was first reported to be 175 ft long and caved to the top of the bank. When the site was surveyed in April, the contours indicated a shear failure 450 ft long and extending from the top of the bank to a point some 200 ft riverward. A second failure was reported and surveyed in April at range 144+00. The survey contours showed a flow failure with a maximum width of 300 ft and a neck width of only 120 ft. The break extended some 200 ft riverward and to within 30 ft of the top of the bank. No borings were located in the area.

49. Merriweather-Cherokee, Tenn. (site 175, 872 MAHP). One failure at range 115+00 was first reported in January and surveyed in July where revetment was placed in 1950. The break appeared to be a shear failure some 250 ft in length and extending from the top of the bank to a point some 100 ft riverward. No boring was within 500 ft of the failure.

50. Cow Island Bend, Ark. (716 MAHP). Three failures at ranges 532+00, 535+00, and 545+00 were first reported in May and surveyed in June where revetment was placed in 1968. The failure at range 532+00 had the contours of a shear failure about 300 ft long and extending from the top of the bank to a point approximately 150 ft riverward. The second failure, at range 535+00, was approximately 175 ft long and extended from the top of the bank to a point some 50 ft riverward. This break was also considered to be a shear failure. The third break, at range 545+00, had a typical fan shape of a flow failure with a maximum width of 325 ft and a neck of only 90 ft. The break extended from the top of the bank to a point some 225 ft riverward. No boring was located within 500 ft of any of the failures.

51. Porter Lake, Ark. (site 20, 704 MAHP). One failure at range 236+00U was first reported in June and surveyed in August where revetment was placed in 1965. This break was considered a shear failure, 175 ft long and extending from 100 ft riverward to within 20 ft of the top of the bank. No borings were located in the area.

52. Flower Lake, Miss. (666 MAHP). One failure at range 182+00 was first reported in June and surveyed in August where revetment was placed in 1963 and 1964. This break had the typical fan shape of a flow failure with a maximum width of 350 ft and a neck width of only 150 ft. The failure extended some 130 ft beyond the top of the bank and to a point about 300 ft riverward. There was no boring located within 500 ft of the failure.

53. Knowlton, Ark. (620 MAHP). One failure at range 206+00 was reported in January and surveyed in July where revetment was placed in 1950. The break was classified as a shear failure with a width of 200 ft and extending from within 30 ft of the top of the bank to a point some 100 ft riverward.

54. Cessions Towhead, Ark. (610 MAHP). One failure was reported on 7 January between stations 120+00 and 113+00 where revetment was placed in 1967. The break was reported to be 300 ft long and to have caved to the top of the bank. On 26 January the failure was reported to be 600 ft long. When the site was surveyed in August, the break was 700 ft long and appeared to have been caused by scour. No borings were located in the area.

55. Fitler-Cottonwood, Miss. (site 128, 475 MAHP). One failure between range 109 and range 110 was reported and surveyed in September where revetment was placed in 1947. The contours indicated a shear failure 400 ft long and extending from within 50 ft of the top of the bank to a point about 200 ft riverward. No boring was located within 500 ft of the area.

56. Goodrich, La. (site 79, 466 MAHP). One failure was reported and surveyed in June where revetment was placed in 1951 and again in 1969 and 1971. This break had the typical fan shape of a flow failure,

with a maximum width of 425 ft and a minimum or neck width of 200 ft. It extended from the top of the bank to a point some 350 ft riverward.

57. Diamond, La.-Miss. (site 62, 423 MAHP). One failure between R-31-D and R-32-D was reported and surveyed in June where revetment was placed in 1958. This break had the typical fan shape of a flow failure with a maximum width of 175 ft and a neck width of only 75 ft. It extended from 175 ft riverward to 10 ft beyond the top of the bank. Boring 0-7-56 was located 850 ft upstream and Boring 0-8-56 was 1000 ft downstream; both indicated an unstable area.

58. Palmetto, Miss. (site 243, 324 MAHP). One failure between U-114 and U-112 was reported and surveyed in May where revetment was placed in 1972. The break was classified as a shear failure, approximately 325 ft long and extending from within 20 ft of the top of the bank to a point approximately 150 ft riverward. No borings were located within 500 ft of the failure.

59. Carr point, La. (site 349, 303 MAHP). This failure between D-13 and D-18 was located at the downstream end of the revetment originally placed in 1949. The failure area was approximately 1000 ft long and appeared to have been caused by scour.

60. Grand Bay, La. (257 MAHP). The failure area between D-3 and D-8 was reported and surveyed in May where revetment was originally placed in 1921. Repairs were made through the years, with the last repairs being made in 1969. The failure was approximately 700 ft long and appeared to have been caused by scour. No recent borings were located in the area.

1977 Failures

61. Breckwith Bend, Mo. (934 MAHP). Two failures were first reported in May and surveyed in June between stations 208+00 and 212+00 and at station 215+00 where revetment was placed in 1950. The contours shown for the break between stations 208+00 and 212+00 indicate a flow failure with a maximum width of 350 ft and a minimum or neck width of 150 ft. The break extended from the top of the bank to a point some 250 ft riverward. The second break, at station 215+00, appeared to be

a shear failure some 100 ft wide, extending from within 15 ft of the top of the bank to a point some 80 ft riverward. No borings were located along this reach.

62. Cessions Towhead, Ark. (616 MAHP). One failure between stations 123+00 and 125+00 was reported and surveyed in June where revetment was placed in 1973. This break had the typical fan shape of a flow failure with a maximum width of 275 ft and a minimum or neck width of only 125 ft. It extended from within 30 ft of the top of the bank to a point some 225 ft riverward. No boring was within 500 ft of the failure.

63. Walnut Point, Miss. (site 60, 522 MAHP). One failure was reported and surveyed in June between R-4-U and R-5-U, where revetment was placed in 1956 and again in 1970. This break had the typical fan shape of a flow failure with a maximum width of 200 ft and a minimum or neck width of 100 ft. It extended some 200 ft riverward and to a point approximately 40 ft from the top of the bank. No boring was located within 500 ft of the area.

In accordance with letter from DAEN-RDC, DAEN-ASI dated 22 July 1977, Subject: Facsimile Catalog Cards for Laboratory Technical Publications, a facsimile catalog card in Library of Congress MARC format is reproduced below.

Gann, Albert R
Verification of empirical method for determining riverbank stability, Report 12-24 - 1974 through 1977 data / by Albert R. Gann. (Geotechnical Laboratory. U.S. Army Engineer Waterways Experiment Station) ; prepared for The President, Mississippi River Commission, Vicksburg, Miss. -- Vicksburg, Miss. : U.S. Army Engineer Waterways Experiment Station ; Springfield, Va. : available from NTIS, 1981.
20, [73] p. ; [4] leaves of plates : ill. ; 27 cm. -- (Miscellaneous paper / U.S. Army Engineer Waterways Experiment Station ; S-78-5, Report 19)
Cover title.
"February 1981."

1. Bank stability. 2. Banks. 3. Borings. 4. Liquefaction (Soils). 5. Mississippi River. 6. Revetment. 7. Rivers. I. Mississippi River Commission. II. United States. Army Engineer Waterways Experiment Station. Geotechnical Laboratory. III. Title. IV. Series: Miscellaneous paper (United States. Army Engineer Waterways Experiment Station) ; S-78-5, Report 19.
TA7.W34m no.S-78-5 Report 19

ASSOCIATED REPORTS*

Study of Materials in Suspension, Mississippi River; T. M. No. 122-1	February 1939
Study of Materials in Transport, Passes of the Mississippi River; T. M. No. 158-1	September 1939
Geological Investigation of the Alluvial Valley of the Lower Mississippi River; Mississippi River Commission	December 1944
A Laboratory Study of the Meandering of Alluvial Rivers	May 1945
Fine-Grained Alluvial Deposits and Their Effects on Mississippi River Activity	July 1947
Report of Conference on Sand-Asphalt Revetment, 12 August 1948	August 1948
Geological Investigation of Mississippi River Activity, Memphis, Tenn., to Mouth of Arkansas River; T. M. No. 3-288	June 1949
Bank Caving Investigations, Morville Revetment, Mississippi River; T. M. No. 3-318	September 1950
Investigation of Free Nigger Point Crevasse, Mississippi River; Mississippi River Commission	December 1950
Mississippi River Revetment Studies; St. Anthony Falls Hydraulic Laboratory Project Report No. 21	June 1951
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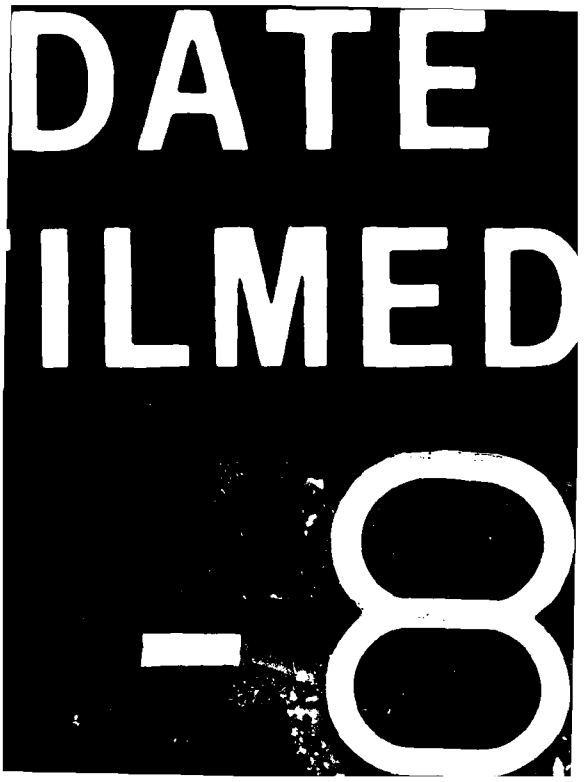
Potamology Barrel Samples; Miscellaneous Paper No. 3-9	August 1952
Torsion Shear Study; Miscellaneous Paper No. 3-10	August 1952
Study of Variability of Sand Deposits; Miscellaneous Paper No. 3-12	August 1952
Flume Investigation of Prototype Revetment; Miscellaneous Paper No. 2-35	September 1952
Investigation of Bituminous Cold Mixes for the Protection of Upper River Banks; T. M. No. 3-362	April 1953
Feasibility Study of Improved Methods for Riverbank Stabilization; Contract Report No. 3-81 by Harza Engineering Co.	November 1964

* Unless otherwise noted, all reports listed are publications of the Waterways Experiment Station.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